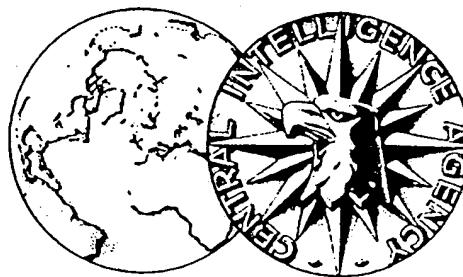


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# SOVIET AND SATELLITE GRAIN

CIA HISTORICAL REVIEW PROGRAM  
RELEASE IN FULL



ORE 20-48

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## SOVIET AND SATELLITE GRAIN

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## SOVIET AND SATELLITE GRAIN

*(The Grain Situation in the Soviet Union and Specified Areas Under Soviet Influence in Prewar Years, 1946, 1947 and Production Expectancy in 1950, 1955, and 1960)*

## SUMMARY

The Soviet Union and the Eastern European countries now under Soviet influence constitute the largest grain producing area in the world. In prewar years, bread grain production in the Soviet Union alone was approximately three times that of any other country. Also, prior to World War II, net grain exports from the Soviet group of countries<sup>1</sup> to outside areas averaged approximately 4.7 million metric tons annually. In recent years, the production of grain in these countries has been considerably less than that of prewar. It does not appear likely that prewar annual production of more than 80 million metric tons of bread grains and around 75 million metric tons of other grain will be attained until between 1955 and 1960.<sup>2</sup> Because of curtailment of grain consumption in these countries, however, reserve stocks are being accumulated and some tonnages are being made available for export.

By 1960, the expectancy in total grain production has been placed at 164.6 million metric tons as compared with an average production of 155.1 million metric tons during the prewar period 1935-1939.

While total production of grain is expected to reach prewar levels before 1960, the per capita production<sup>3</sup> is expected to recover to around only 92 percent of prewar levels by 1960.

The use of the years 1935-1939 as the prewar reference period should not be construed to mean that production in the areas under consideration must reach 1935-1939 average levels before these countries would be in a position to support or participate in a major war effort as far as cereal food is concerned. For example, in the Soviet Union, the average 1935-1939 total grain supply is estimated at 505 kilograms<sup>4</sup> per capita, while during the war year 1944-45 the supply was only 381 kilograms per person per year. Current estimates of the combined grain production in the Soviet Union in 1947 indicate a total supply of around 389 kilograms per person per year, a supply slightly greater than that available during the war years.

The quantity of grain in the Soviet Union available for export, stockpiling, or other uses from the 1947 harvest which is in the hands of producers and at the dispo-

<sup>1</sup> The Soviet Union, Manchuria and the following Eastern European Satellite countries: Finland, Poland, Czechoslovakia, Hungary, Rumania, Yugoslavia, Bulgaria and Albania.

<sup>2</sup> See Table 1, page 5.

<sup>3</sup> See Table 2, page 7.

<sup>4</sup> See Table 6, page 10.

Note: The information in this report is as of 4 March 1948 (see Addendum, page 49).

The intelligence organizations of the Departments of State, Army, and the Navy have concurred in this report; the Air Intelligence Division, Air Intelligence Directorate, Department of the Air Force, had no comment.

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sition of the government, after domestic utilization at present low levels has been covered, is estimated to be around 7.5 million metric tons of which 2.7 million metric tons are bread grains and 4.8 million metric tons are coarse grains. Of these quantities, some 2.0 million metric tons of bread grains and 1.0 million tons of coarse grains were harvested within relatively easy access to export points.

As of 4 March 1948, the Soviet Union had made commitments to ship to various European countries a total of 3.29 million tons of grain of which approximately 1.80 million tons were bread grains and approximately 1.26 million tons were coarse grains.<sup>1</sup>

There are transportation limitations to the shipment of large quantities of grain from the Soviet Union which may make it difficult, if not impossible, for the above commitments to be fulfilled.

Based on present consumption rates, stocks of grain for carry-over, export and other uses in the Soviet Union in future years may be expected to increase. The degree to which such surpluses will be stockpiled, released to the non self-suppliers to augment their low rations, or shipped abroad to build up political prestige or to confuse the international trade of the capitalistic world will be based, not on our conception of economic surpluses or deficits, but will be in conformity with the policies of the Kremlin.

Shipments of grain from the 1947 harvest by the Satellite countries have been and will be relatively small. In view of the confusion and disturbances expected in the Eastern European\_Satellite countries, resulting from the land reform program to be followed by collectivization, it is believed that during the next several years the exportable surpluses of grains will be relatively insignificant in comparison to prewar exports and that, in general, the future policy may be directed toward inter-Satellite trade or trade with the East rather than with the Western countries. In years of exceptionally good harvests, however, or under pressure of political expediency, or as a means of obtaining critically short capital equipment, sporadic shipments to the West may be expected.

A map showing bread grain production, coarse grain production and total population in the Soviet Union and the Satellite countries in 1935-1939 compared to estimates for 1960 is attached.

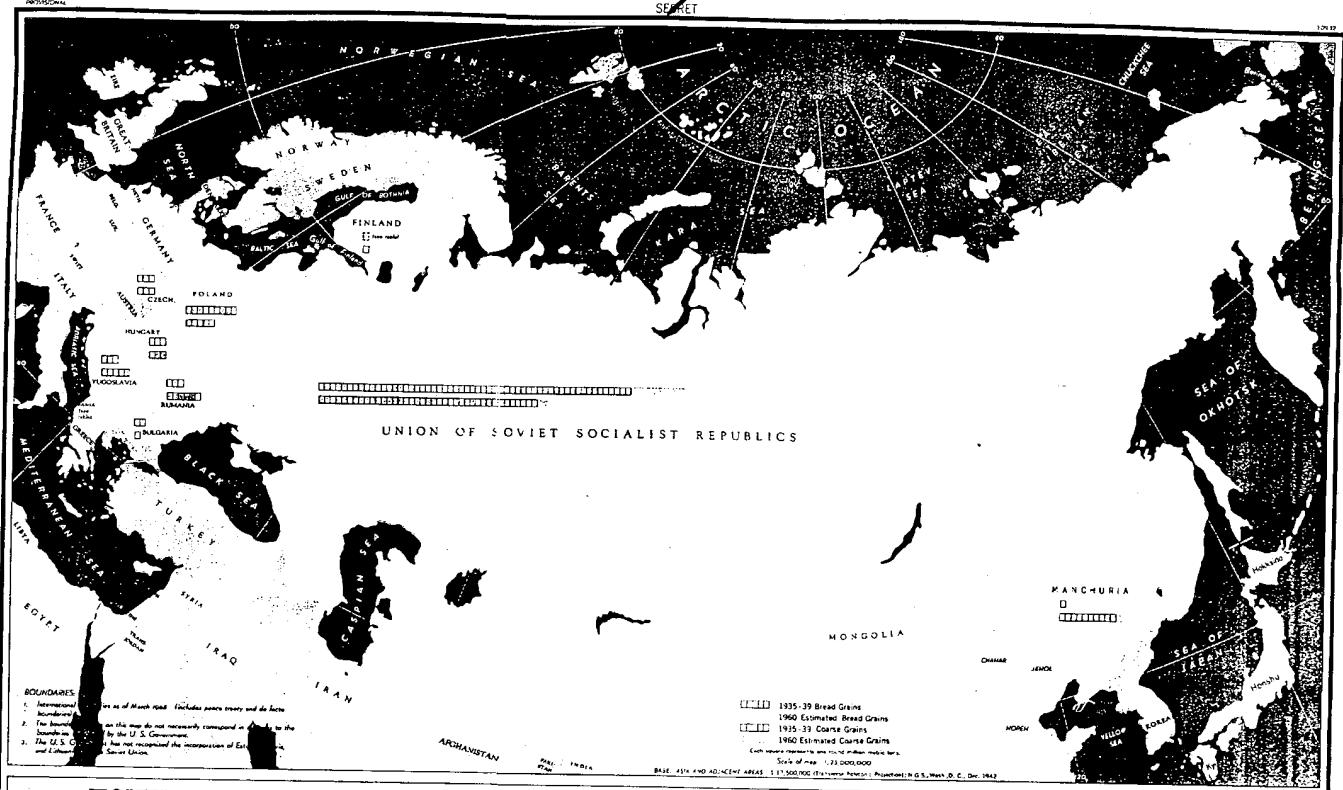
<sup>1</sup> See Addendum, page 49, for more complete statement of the Soviet Union's grain export commitments.

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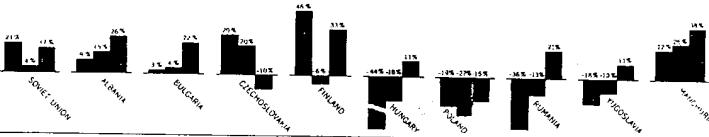
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**ESTIMATED PRODUCTION OF COARSE AND BREAD GRAINS - 1960**  
**U.S.S.R. AND ITS SATELLITES**

Brand Name  
Generic Name  
Active Ingredients

ESTIMATED PERCENTAGE OF CHANGE IN PRODUCTION OF COARSE AND  
BREAD GRAINS AND IN POPULATION FROM 1935-39 TO 1960



PERCENTAGE INCREASE FOR  
HSSE AND ITS SATELLITES

POPULATION AND PRODUCTION OF COARSE AND BREAD GRAIN

1935-39 AND ESTIMATES FOR 1960

	1950-51	1951-52	1952-53	1953-54	1954-55
<i>  Soviet Union</i>	59,756	47,500	99,247	42,000	100,875
<i>  Eastern Europe</i>	44	1,000	1,000	1,000	1,000
<i>  Albania</i>	3,049	1,386	1,186	1,186	1,186
<i>  Czechoslovakia</i>	3,102	4,000	2,660	2,190	19,450
<i>  Hungary</i>	3,278	1,000	3,225	1,000	3,225
<i>  Poland</i>	9,236	7,500	11,075	10,475	27,240
<i>  USSR</i>	2,665	2,310	3,214	2,310	15,260
<i>  Central Europe</i>	24,204	20,498	24,141	7,553	87,335
<i>  Mediterranean</i>	981	1,000	9,603	9,200	42,000
<b>  <i>  TOTAL</i></b>	<b>80,941</b>	<b>69,798</b>	<b>114,006</b>	<b>24,153</b>	<b>209,516</b>
<i>Figures for 1954-55 production are estimated for 1954-55.</i>					

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## SOVIET AND SATELLITE GRAIN

*(The Grain Situation in the Soviet Union and Specified Areas Under Soviet Influence in Prewar Years, 1946, 1947 and Production Expectancy in 1950, 1955, and 1960)*

### INTRODUCTION

Food is a weapon of major significance in establishing and stabilizing peace during periods immediately following world wars. This is especially true of countries which in normal times were not self-sufficient in food production. Grains, particularly bread grains (wheat and rye), occupy first place in world food trade and also are the major constituents of diets on a world-wide basis.

Food production decreased in most of the countries of the world during and immediately following World War II and will not recover to prewar levels on a worldwide basis for a period of several years. This decline in production has been due to shortages of farm laborers, draft power, farm machinery, fertilizer, pesticides, seed, consumer (incentive) goods available to farmers for purchase or exchange for their farm products, and in many countries to unstable currency.

The severity of the decline in food production and supply during the war and postwar periods has been further magnified by a net increase in the population of the world. Since the beginning of World War II, the world's population has increased by nearly 200 million persons or approximately eight percent. Present indications are that population increases throughout the world will continue at a rapid rate for several years.

### THE AREA UNDER CONSIDERATION<sup>1</sup>

The areas included in this analysis are the Soviet Union, Manchuria, and the following Eastern European countries: Finland, Poland, Czechoslovakia, Hungary, Romania, Yugoslavia, Bulgaria, and Albania. All of these countries are directly or indirectly under the influence of the Politburo in Moscow which no doubt will exert a dominant influence in determining future developments and relationships between the Eastern and Western powers.

Production estimates included in this report pertain to quantities actually garnered and not to unharvested grain. In the Soviet Union, the word production usually pertains to so-called "biological" production which is an estimate of grain as it stands in the field prior to harvesting. Normally the Soviet Union's estimate of "biological" production is considerably higher than the quantity of grain harvested because delivery quotas imposed on farmers are based on "biological" estimates and no allowance is made for losses in harvesting, which in the Soviet Union are high.

<sup>1</sup> Data presented on the Soviet Union and the Eastern European Satellite countries, based on present boundaries, are subject to revision.

The prewar reference years used in this report are two five-year periods, 1933-34 through 1937-38, and 1935 through 1939. The latest prewar period for which comparable information is available on production in relation to world trade in grains during consumption years<sup>1</sup> is 1933-34 through 1937-38. The period 1935 through 1939 has been accepted as the conventional prewar reference period for the production of agricultural products.

The analysis presented in this study is based largely on information obtained from the Office of Foreign Agricultural Relations, US Department of Agriculture; published data from the International Institute of Agriculture in Rome and from the Food and Agricultural Organization of the United Nations; Agricultural Attaché and other reports from missions in the various countries concerned and special reports from the different intelligence services.

Estimated production for 1950, 1955, and 1960 as appraised by agricultural specialists familiar with the areas concerned takes into consideration the recovery and developmental programs being sponsored by the several governments. These appraisals for any one period are predicated on the assumption of normal weather conditions. Although other alternatives are conceivable which might materially change these approximations, the production expectancies for 1950, 1955, and 1960 are *based on the assumption* that the agricultural programs in the Satellite countries will follow the general patterns that have prevailed in the Soviet Union since the Communist Party came into power, but with important differences as regards rate, timing, and local adaptation of the Soviet pattern. In general, this program was first to break up the estates of large landed proprietors into smaller holdings which were placed in the possession of the peasant farmers. Later, in the Soviet Union, these peasant farmers were forced to pool their land holdings and other means of production into collective farms under the control of the State. It is believed that the small landholders in certain of the Satellite states will seriously object to the establishment of such collective farms and that, when this policy is forced upon them, confusion in farm operations will ensue accompanied by a significant decline in food production. It is expected that this phase of the program will take place between 1950 and 1955 which accounts for the relatively low production estimates given in this report for 1955.

It must be borne in mind that all numerical values used in referring to current and prospective production are only estimates based on certain assumed conditions even though such words as "approximately", "about", "probably", etc., are sometimes omitted.

Production and population estimates used in this report are based on information available as of 15 November 1947. This study will be revised from year to year as more recent information justifies changes in the estimates.

<sup>1</sup> The consumption year in Eastern Europe begins 1 August of the year grain is harvested and ends 31 July of the following year.

**THE GRAIN SITUATION IN SPECIFIED AREAS\* WITHIN THE SPHERE  
OF SOVIET INFLUENCE**

**1. PRODUCTION.**

The production of grain during the prewar base period 1935-1939 compared to estimated current and prospective production through 1960 is summarized in Table 1. The grain data are summarized and discussed in terms of bread grains,<sup>1</sup> coarse grains,<sup>2</sup> and total grains including relatively small quantities of rice.

**2. BREAD GRAINS.**

Bread grain production in 1947 is estimated at 62.9 million metric tons which represents an increase of 2.8 million metric tons (4.7 percent) over the 1946 production

**TABLE 1.— GRAIN: Production in ALL AREAS.\* Estimates for 1946 and 1947 compared with prewar average 1935-1939 and with expectancy for 1950, 1955, and 1960**

Year	Bread Grains	Coarse Grains	Total Grain Including Rice
<i>Million Metric Tons</i>			
1935-1939 Average	80.9	73.5	155.1
1946	60.1	42.6	103.1
1947	62.9	57.9	121.2
1950	74.0	66.7	141.2
1955	77.6	69.6	147.8
1960	89.2	74.8	164.6

<sup>1</sup>Bread grains include wheat and rye.

<sup>2</sup>Coarse grains include: barley, corn, oats, buckwheat, maslin, millets, spelt, broom corn, kaoliang (in Manchuria), and small quantities of other unspecified grains, but does not include rice which, though a food grain, is conventionally not included in data pertaining to either bread grains or coarse grains.

\*Areas included are the Soviet Union, Manchuria, and the following Eastern European countries: Finland, Poland, Czechoslovakia, Hungary, Rumania, Yugoslavia, Bulgaria and Albania. All estimates have been corrected to conform to present boundaries.

of 60.1 million metric tons, although much less than the average annual production of 80.9 million metric tons during the five-year prewar period 1935-1939.

During the next three years the production of bread grains, particularly in the Soviet Union, is expected to increase at a more rapid rate than that of coarse grains reaching around 74.0 million metric tons by 1950. Between 1951 and 1955 declines in production in certain Satellite countries are expected to be more than offset by increases in production in the Soviet Union, Manchuria, and Czechoslovakia. Combined production may be expected to reach around 77.6 million metric tons, or less than 5 percent below the prewar average. In all countries, production emphasis will be placed on bread grains between 1956 and 1960 resulting in a combined production at the end of the period of around 89.2 million metric tons or more than 10 percent above the prewar average of 80.9 million metric tons.

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3. COARSE GRAINS.

The production of coarse grain in 1947 is estimated at 57.9 million metric tons which is 15.3 million metric tons (36 percent) more than the 42.6 million metric tons produced in the poor crop year 1946, yet 15.6 million metric tons (21.2 percent) below the average annual production during 1935-1939 of 73.5 million metric tons.

Some increase in coarse grain production (around 9.0 million metric tons) may be expected during the next three years, bringing the 1950 harvest up to approximately 66.7 million metric tons. During the five years 1951 through 1955, a continuing upward trend in the Soviet Union will tend to more than offset decreases in the Satellite states resulting in a net gain of around 3.0 million metric tons, bringing the 1955 production up to about 69.6 million metric tons. By 1960 coarse grain production may be expected to approximate 74.8 million metric tons or to exceed slightly the 1935-1939 average of 73.5 million metric tons.

4. TOTAL GRAIN.

The 1947 production of total grain in all areas included in this analysis is estimated to be 121.2 million metric tons which is 18.2 million metric tons (17.7 percent) more than the 103.0 million metric tons estimated to have been produced in 1946. The 1947 production, however, is 33.9 million metric tons (21.8 percent) below the 1935-1939 average annual production of 155.1 million metric tons.

During the next three years, a general upward trend may be expected in the production of all grains resulting in an increase of some 20.0 million metric tons by 1950. During the period 1951 through 1955, the upward trend in production is expected to continue in certain countries, particularly in the Soviet Union, which will more than offset reduced production in certain Satellite countries caused by confusion in farm activities. The net effect may be expected to result in a 1955 production of total grain of around 148.0 million metric tons, nearly 7.0 million tons greater than the 1950 production but still about 4.5 percent below the 1935-1939 average. During the next five years it is anticipated that all governments under the influence of the Soviet Union will be encouraged to strive toward increased production to meet increased domestic requirements and to build up grain stocks. By 1960 production may be expected to reach 165.0 million metric tons, or between 5 and 10 percent above the prewar average of 155.1 million metric tons.

RELATIONSHIP OF GRAIN PRODUCTION IN ALL AREAS  
TO TOTAL POPULATION

During the period 1955 through 1960, total grain production in the areas under consideration is expected to increase from around 148.0 million metric tons in 1955 to around 165.0 million in 1960 as compared with the prewar average production of 155.0 million metric tons (see Table 1). However, since the populations of these areas are increasing rapidly (359.6 million in 1955; 379.3 million in 1960 as compared with 328.5 million average 1935-1939; see Table R, Appendix V), a more accurate relationship of

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postwar production to prewar levels can be obtained by expressing grain production on a per capita basis.<sup>1</sup> This relationship is summarized in Table 2.

TABLE 2.—GRAIN: Per capita production in ALL AREAS. Estimates for 1946 and 1947 and expectancy for 1950, 1955 and 1960 expressed in kilograms per person per year and as percentages of the prewar average 1935-1939

Consumption Year	Bread Grains		Coarse Grains		Total Grain Inc. Rice	
	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent
1935-1939	246	100	224	100	472	100
1946-1947	183	74	128	57	313	66
1947-1948	190	77	176	79	366	78
1950-1951	218	89	196	87	416	88
1955-1956	216	88	193	86	411	87
1960-1961	235	95	197	88	434	92

For purposes of comparison, the following data are presented concerning grain production in the United States.

	1935-39	1946	1947
Bread Grains			
Production — 1,000 metric tons	21,740	30,675	38,838
Production per person per year — kilograms	169	218	270
Coarse Grains			
Production — 1,000 metric tons	82,650	114,120	89,360
Production per person per year — kilograms	643	814	620
Total Grain			
Production — 1,000 metric tons	105,406	146,268	129,816
Production per person per year — kilograms	821	1,041	905

In view of the relatively rapid increase in total population of the areas under consideration, the production of grain on a per capita basis will not return to prewar levels as quickly as the data shown in Table 1 indicate. By 1960 total grain production in the area under consideration is expected to be 106 percent of the 1935-1939 average. On the basis of data presented in Table 2, the per capita production of grain in 1960 will have reached about 92 percent of prewar levels.

The government programs for increasing food production in most of the countries under consideration include plans for the mechanization of agriculture which, if realized, may tend to reduce the numbers of draft animals used on farms as compared to prewar numbers. Such a reduction in numbers of draft animals would, in effect, release some grain for human consumption or other uses. The magnitude of this development cannot be accurately appraised quantitatively at this time, but it is probable that relatively larger quantities of the total grain production in future years will be used domestically for human food than was the case during prewar years.

<sup>1</sup> Grain production has been expressed on a per capita basis because of the lack of reliable information on all areas covered in this report from which to estimate probable utilization. The per capita production for the five-year period 1935-1939 has been computed and given an arbitrary value of 100. Production expectancies per capita in subsequent years have been expressed as a percentage of the prewar base period on the assumption that utilization will follow about the same over-all patterns and ratios as in prewar years, and that population is a more reliable criteria to which to relate production than any other measure available.

## THE GRAIN SITUATION IN THE SOVIET UNION (PRESENT BOUNDARIES)

### 1. PRODUCTION.

Grain production in the Soviet Union during the prewar reference period 1935-1939 compared with estimated current and future production through 1960 is summarized in Table 3. This summary is presented in terms of bread grains, coarse grains, and total grains including small quantities of rice.

### 2. BREAD GRAINS.

The bread grain harvest of approximately 47.1 million metric tons in 1947 represents an increase of 4 million metric tons (9 percent) over the 43.1 million metric tons produced in 1946. Compared to prewar production, however, the 1947 harvest was 8.6 million metric tons (16 percent) below the average annual harvest of 55.8 million metric tons in 1935-1939.

During the next few years bread grain production will tend to increase, exceeding the prewar average by 4-5 percent in 1955 and by 20 percent or more in 1960.

### 3. COARSE GRAINS.

Coarse grain production of approximately 27.7 million metric tons in 1947 was an increase of 8.5 million metric tons (44 percent) over the 1946 production<sup>1</sup> estimated at 19.2 million metric tons, but was 11.6 million metric tons (42 percent) below the average annual production during 1935-1939 of 39.3 million metric tons.

Although coarse grain production is expected to increase during the next several years, the rate probably will be much slower than that of bread grains and is not expected to reach prewar levels of production much before 1960.

### 4. TOTAL GRAIN.

The 1947 production of all grain including rice, estimated at 75.0 million metric tons, was 12.5 million metric tons (20 percent) greater than the 1946 production of 62.5 million metric tons. Compared to production during 1935-1939, however, the 1947 harvest of total grains was 20.3 million metric tons (21 percent) below production during the prewar base period. It will be noted from Table 3 that the estimated total production of grain in the Soviet Union is expected to continue to increase at a fairly constant rate and that in 1960 the total production will reach approximately 108.4 million metric tons or 13.2 million metric tons (14 percent) more than the average annual production during 1935-1939 of 95.3 million metric tons.

The production of specified grains in the Soviet Union during prewar years compared to estimated production in 1946 and 1947 is summarized in Table 4.

<sup>1</sup> The production of coarse grain was greatly reduced in 1946 by a severe drought.

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TABLE 3.—GRAIN: Production in the SOVIET UNION. Estimates for 1946 and 1947 compared with prewar average 1935-1939 and with expectancy for 1950, 1955 and 1960

Year	Bread Grains	Coarse Grains	Total Grain Including Rice
<i>Million Metric Tons</i>			
1935-1939 Average	55.8	39.3	95.3
1946	43.1	19.2	62.5
1947	47.1	27.7	75.0
1950	51.5	33.1	84.8
1955	58.1	37.0	95.3
1960	67.5	40.7	108.4

TABLE 4.—GRAIN: Production of specified cereals in the SOVIET UNION. Estimates for 1947 compared with 1946 and the prewar average 1935-1939

Specified Grain	Average 1935-1939	1946	1947	Increase In 1947 Over 1946
<i>1,000 Metric Tons</i>				
Wheat	33,756	21,300	23,800	2,500
Rye	22,000	21,800	23,300	1,500
Bread Grains	55,756	43,100	47,100	4,000
Rice	215	159	199	40
Barley	9,253	4,500	6,700	2,200
Oats	16,919	8,700	11,900	3,200
Corn	4,110	2,000	3,200	1,200
Other	9,000	4,000	5,888	1,888
Coarse Grains	39,282	19,200	27,688	8,488
Total Grain	95,253	62,459	74,987	12,528

#### RELATIONSHIP OF GRAIN PRODUCTION IN THE SOVIET UNION

##### TO TOTAL POPULATION

It is estimated that the total population in the Soviet Union will increase at a rate slightly in excess of 1.0 percent per year throughout the duration of the period covered in this analysis (see Table R, Appendix V). The relationship of grain production expressed as bread grains, coarse grains and total grain (including a relatively small quantity of rice) to total population is shown in Table 5.

On the basis of total production, the 1955 grain harvest in the Soviet Union is expected to equal the average prewar (1935-1939) harvest (see Table 3). When total grain production is expressed on a per capita basis, however, the recovery to prewar levels is much slower. In 1960, for example, the per capita production of bread grains will approximate 103 percent of prewar, coarse grains 88 percent, and total cereals 97 percent.

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TABLE 5.—GRAIN: Per capita production in the SOVIET UNION. Estimates for 1946 and 1947 and expectancy for 1950, 1955 and 1960 expressed in kilograms per person per year and as percentages of the prewar average 1935-1939

Consumption Year	Bread Grains		Coarse Grains		Total Grain Inc. Rice	
	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent
1935-1939	296	100	208	100	505	100
1946-1947	225	76	99	48	326	65
1947-1948	244	82	145	70	389	77
1950-1951	262	88	168	81	432	86
1955-1956	278	94	177	85	456	90
1960-1961	305	103	184	88	491	97

ESTIMATED 1946 AND 1947 GRAIN PRODUCTION IN THE SOVIET UNION AND  
EXPECTANCY IN 1950, 1955 AND 1960 IN RELATIONSHIP TO TOTAL  
SUPPLIES AVAILABLE DURING THE WAR YEAR 1944-1945

In using the five-year period 1935-1939 as a prewar reference base for grain production, it should not be inferred that the various countries under consideration must again achieve prewar levels of production before they can undertake a major war effort. In the event of an extreme emergency such as was experienced in World War II, countries can adjust themselves to significantly smaller quantities per capita than were available in time of peace.

The data summarized in Table 6 indicate that the grain supplies available in the Soviet Union on a per capita basis during the consumption year 1947-48 are somewhat greater than the grain supplies available during the war year 1944-45. It is expected that during subsequent years the per capita production will continue to increase and will reach a level in 1960-61 of approximately 132 percent of that of 1944-45, but (as indicated in Table 5) about 97 percent of the prewar production during the five-year period 1935-1939.

TABLE 6.—GRAIN: Per capita production in the SOVIET UNION. Estimates for 1946 and 1947 and expectancy for 1950, 1955 and 1960 expressed in kilograms per person per year and as percentages of the war year 1944-1945

Consumption Year	Bread Grains		Coarse Grains		Total Grain Inc. Rice	
	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent
1944-1945 <sup>1</sup>	234	100	135	100	381	100
1935-1939	296	126	208	154	505	136
1946-1947	225	96	100	74	326	88
1947-1948	244	104	144	107	389	105
1950-1951	262	112	168	124	432	116
1955-1956	278	119	177	131	456	123
1960-1961	305	130	184	136	491	132

<sup>1</sup> Consumption year 1 August 1944 to 31 July 1945.

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## THE GRAIN EXPORT POTENTIAL IN THE SOVIET UNION

AS OF 1 JANUARY 1948

### 1. BREAD GRAINS.

After deducting allowances for seed, waste, and human consumption from the 1947 garnered (barn) production of wheat and rye, it is estimated that the bread grain in the hands of farmers and the grain to be procured by the Soviet government for stockpiling, export, and other utilization during the consumption year 1 August 1947 to 31 July 1948 is 2.7 million metric tons. The comparable figure for 1946-47 is estimated at 1.5 million metric tons of bread grains (see Table 7).

TABLE 7.—Estimated production, utilization and residual of BREAD GRAINS in the SOVIET UNION from the 1948 and 1947 harvests

Item	1946-1947		1947-1948	
	Million	Metric	Million	Metric
Production			43.1	47.1
Used for Seed			7.6	8.1
Waste			1.3	1.4
Used for Human Consumption			32.7	34.9
Residual (available for carry-over, export, stockpiling, etc.)			1.5	2.7

As of 16 December 1947 the rationing of bread was discontinued in the Soviet Union. The abandoning of bread rationing will not be followed by a proportionate increase in bread grain consumption by each of the rationed categories. Self-supplying farmers will continue to consume approximately 215 kilograms per capita per year. The Armed Forces are not expected to increase materially their consumption of 260 kilograms per man per year. Political prisoners and some other categories of consumers will consume little if any more bread than during the rationing period. On the other hand, workers and employees and their dependents may be expected to increase bread consumption to a considerable degree. It is believed that additional quantities of grain required to cover increased consumption from 16 December 1947 until the 1948 harvest becomes available for utilization in August will not exceed 1.9 million metric tons. This increased consumption for the remainder of the 1947-48 consumption year was taken into account in computing the bread grain residual of 2.7 million metric tons referred to above.

Some low grade wheat and rye are always fed to livestock and utilized industrially. On the other hand, barley, oats, and other grains may be, and frequently are, added to the bread mixture. There is no basis for numerically approximating the quantity of these and other admixtures actually used, but it may be assumed that they offset the use of bread grains for purposes other than human consumption.

The bread grain residual of 2.7 million metric tons above domestic utilization from the 1947 harvest may be further increased by the addition of potatoes and more water to the bread mixture, a common practice in Soviet government bakeries.

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2. COARSE GRAINS.

After deducting allowances for seed, waste, industrial utilization, feed for livestock, and food for human consumption from the 1947 garnered production of coarse grains, it is calculated that the residual in the hands of farmers and grain available to the Soviet government for stockpiling, export, or other utilizations during the consumption year 1 August 1947 to 31 July 1948 is 4.8 million metric tons compared with 0.3 million metric tons during 1946-47, as shown in Table 8.

TABLE 8. — Estimated production, utilization and residual of COARSE GRAINS in the SOVIET UNION from the 1946 and 1947 harvest

Item	1946-1947		1947-1948	
	Million Metric Tons			
Production				
Seed	19.2		27.7	
Waste	4.4		4.7	
Industrial	0.6		0.8	
Feed for Livestock	1.3		1.5	
Human Food:	8.9		10.6	
Misc. grains including corn, buckwheat, etc. <sup>1</sup>	3.7		5.3	
Residual (available for carry-over, export, stockpiling, etc.)	0.3		4.8	

<sup>1</sup> In the Soviet Union pulses are included as part of the miscellaneous coarse grains. From the meager data available on this group of grains it is not possible to segregate pulses.

3. GRAIN STOCKS.

There is no information available concerning stocks of grain in the Soviet Union at the conclusion of World War II. Because of the relatively poor harvests during the war years, however, it is not considered feasible that reserve stocks of grains could have been established prior to the 1946 harvest. Based on current estimates of production and utilization of the 1946 harvest, it is believed that the surpluses above domestic utilization of approximately 1.5 million metric tons of bread grains and 0.3 million metric tons of coarse grains were stored as reserve stocks.

4. POTENTIAL EXPORTABLE SURPLUS OF GRAIN FROM 1947 HARVEST.

Based on information available as of 15 November 1947, it appears that the quantity of grain from the 1947 harvest at the disposition of the government and in the hands of producers after domestic utilization has been covered lies between 7 and 8 million metric tons. The statistical balance indicates a total grain residual of 7.5 million metric tons of which 2.7 million metric tons are bread grains and 4.8 million tons are coarse grains. A substantial portion of these tonnages may be exported.

5. GRAIN EXPORT COMMITMENTS.<sup>1</sup>

The Soviet Union has made commitments (as of 1 January 1948) to ship to various European countries a total of 2,365 thousand metric tons of grain of which 1,190 thousand metric tons were bread grains and 1,175 thousand metric tons were coarse grains.

<sup>1</sup> See Addendum, page 49.

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Details of the commitments and the planned shipping program are summarized in Table 9.

TABLE 9. — Grain export commitments of the SOVIET UNION for 1947 and 1948 and planned shipping program

Country of Destination	Commitments		Shipments to End of 1947		To Be Shipped in 1948	
	Bread Grains	Coarse Grains	Bread Grains	Coarse Grains	Bread Grains	Coarse Grains
1,000 Metric Tons						
United Kingdom	750	..	..	..	750	..
Czechoslovakia	400	200	50	50	350	150
Poland	260	40	260	40	..	..
Finland	170	85	..	..	170	85
Rumania	60	20	60	20	..	..
Bulgaria	5	20	5	20	..	..
Denmark	60	40	..	..	60	40
Norway	170	20	..	..	170	20
Sweden	65	..	..	..	65	..
Total	1,190	1,175	375	130	815	1,045

It is impossible to estimate the extent to which the Soviet government, under pressure of political expediency, may attempt to ship more grain to Western European countries than is indicated by the above table of commitments. On the other hand, there is no certainty that the Soviet government will or can fulfill its present commitments. There are apparent limitations to the shipment of grain in large quantities which will be difficult, if not impossible, for the Soviet Union to overcome.

#### 6. TRANSPORTATION LIMITATIONS.

With few exceptions, bulk grain is not transported by rail in the Soviet Union, but is usually sacked in quantities of one quintal (220 pounds) per sack. This requires the use of more manpower per ton of grain handled than is necessary in most other countries. Soviet railroads are of wide gauge which necessitates unloading from wide gauge cars and loading to standard gauge cars at national boundaries or transferring Soviet boxcars from wide gauge to standard gauge trucks. All railroad equipment in the Soviet Union is in short supply and much of it is in need of repair.

Loading facilities at the Black Sea and Baltic ports (normally inadequate) were destroyed or badly damaged during the war. Loading of ships must be accomplished by crane lifts or by stevedores who actually carry sacks of grain aboard and hand-dump them into the holds.

These obvious limitations to the handling of large quantities of grain for export indicate the serious difficulties which may be encountered in meeting their export commitments. On the other hand, the Soviet government may enlist the services of young enthusiastic party members or use political and war prisoners to any extent necessary to overcome the handicaps referred to above. Although the Soviet governmental machine is inefficient, its effectiveness under dictatorial compulsion should not be underestimated.

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## THE GRAIN SITUATION IN SELECTED EASTERN EUROPEAN COUNTRIES<sup>1</sup> (PRESENT BOUNDARIES)

Because of incomplete information, it is not possible to calculate a balance for the grain situation in the Satellite countries with the same degree of accuracy as was done in the case of the Soviet Union.

Since the war, current official appraisals of production have had a pessimistic bias when not actually falsified by some particular government actuated by the necessity of keeping reparation levies by the Soviet Union at as low a level as possible or of enlisting the sympathy of UNRRA or the United States to increase allotments for relief and reconstruction.

Three of the countries in the group under consideration, Finland, Czechoslovakia, and Albania, were normally importers of grain during the period 1933-34 through 1937-38, requiring a combined average yearly total of 421 thousand metric tons (including rice) to supplement the combined indigenous production of 7,133 thousand metric tons.

On the other hand, Poland, Hungary, Rumania, Yugoslavia, and Bulgaria were normally net exporters, shipping abroad during 1933-34 through 1937-38 an average of 3,282 thousand metric tons of grain after indigenous requirements had been covered from a combined production of 38,561 thousand metric tons of bread grains and coarse grains together with a negligible quantity of rice.

With the information now available, it is not considered possible to compute a grain balance for any one of these Eastern European countries. A general idea of the situation in any given year can be obtained for the area taken as a whole by calculating the relationship of total production to total population as is summarized in Table 11.

### 1. PRODUCTION.

The production of grain during the prewar base period 1935-1939 compared to estimated current and prospective production through 1960 is summarized in Table 10. These data are summarized and discussed in terms of bread grains, coarse grains, and total cereals including negligible quantities of rice.

<sup>1</sup> For a more detailed discussion of this subject, see Appendix II.

TABLE 10.—GRAIN: Production in EASTERN EUROPE. Estimates for 1946 and 1947 and expectancy for 1950, 1955 and 1960 compared with prewar average 1935-1939

Year	Bread Grains	Coarse Grains	Total Grain Including Rice	Million Metric Tons
1935-1939 Average				
1946	24.2	24.3	48.6	
1947	16.6	13.8	30.5	
1950	15.3	21.2	36.6	
1955	21.7	22.6	44.3	
1960	18.4	20.6	39.0	
	20.5	21.6	42.2	

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**2. BREAD GRAINS (1946 AND 1947 PRODUCTION COMPARED TO PREWAR).**

The combined production of bread grain in 1947 in the Eastern European countries included in this analysis taken as a whole is estimated at 15.3 million metric tons, which is 1.3 million metric tons (8 percent) less than the 16.6 million metric tons produced in 1946 and 8.9 million metric tons (37 percent) below the average production of 24.2 million metric tons during the prewar base period 1935-1939.

**3. COARSE GRAINS (1946 AND 1947 PRODUCTION COMPARED TO PREWAR).**

Coarse grain production in 1947, estimated at 21.2 million metric tons, represents an increase of 7.4 million metric tons (54 percent) over the 13.8 million metric tons produced in the preceding year. The drought of 1946 in Eastern Europe was more acute in the regions where coarse grains are normally grown than in the bread grain regions. The 1947 harvest was around 3.0 million metric tons (12 percent) below the prewar average production of 24.3 million metric tons.

**4. TOTAL GRAIN INCLUDING RICE (1946 AND 1947 PRODUCTION COMPARED TO PREWAR).**

Total production of grain including negligible quantities of rice in 1947 is estimated at 36.6 million metric tons, or an increase of 6.1 million metric tons (20 percent) over production in 1946 of 30.5 million metric tons. Compared to prewar harvests, however, the 1947 production was 12.0 million metric tons (25 percent) below the average production of 48.6 million metric tons during 1935-1939.

**5. PRODUCTION EXPECTANCY IN 1950, 1955, AND 1960.**

It already appears evident that the Soviet government will eventually impose essentially the same general agricultural policies upon the puppet governments of the Satellite countries as have prevailed in the Soviet Union during recent years, making any necessary adjustments to local political and economic conditions. These policies include further land reform programs in which the large estates are divided into smaller holdings which are then placed in the possession of peasant farmers. The peasants change the former pattern of farming to the extent of producing more food for subsistence and using larger quantities of coarse grains for feeding the additional numbers of livestock they normally acquire in improving their individual food supply. The net effect of such a change on a country-wide basis is to improve the standard of living for the peasant farmers, but to reduce the quantity and change the composition of marketable farm surpluses previously available for feeding the non-farm population or for export to other countries.

As a result of the decline in the marketable surpluses of foodstuffs and the difficulty of assembling such small farm surpluses as are produced, it is expected that the National Governments, acting upon the "advice" of the Soviet government, will encourage or force the peasants to combine their individual small land holdings and livestock into collective farm centers. This phase of the program is expected to be strongly resented by the peasants in certain countries and the disturbances resulting therefrom will cause significant decreases in food production. It is believed that this development will occur prior to 1955. A quantitative appraisal of the effect of this program upon grain production as of 1955 and 1960 is indicated in Table 10.

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### RELATIONSHIP OF GRAIN PRODUCTION TO TOTAL POPULATION

The population of the Satellite countries in Eastern Europe at the end of the year 1947 is estimated at 89.3 million. It is expected that this combined population will increase to around 99.6 million by 1960. The relationship of grain production expressed as bread grains, coarse grains, and total grain to total population is shown in Table 11.

TABLE 11.—GRAIN: Per capita production in EASTERN EUROPE expressed in kilograms per person per year and as percentages of the 1935-1939 average. Estimates for 1946 and 1947 and expectancy for 1950, 1955 and 1960

Consumption Year	Bread Grains		Coarse Grains		Total Grain Inc. Rice	
	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent
1935-1939	249	100	250	100	499	100
1946-1947	186	75	155	62	341	68
1947-1948	171	69	238	95	409	82
1950-1951	236	93	246	98	482	97
1955-1956	192	77	216	86	408	82
1960-1961	206	80	217	87	423	85

On a per capita basis, an increase in grain production in the Satellite countries taken as a whole is expected to continue until around 1950 at which time per capita production would be approximately 97 percent of production during the prewar base period. Following the land reform, coarse grain production is expected to build up more rapidly than bread grain production because the peasants will be more interested in building up their flocks and herds than in producing surpluses to feed the non-farm population or to export. Also, in much of this area, corn (a coarse grain) is the principal cereal food of the peasants, whereas urban dwellers eat bread grains almost exclusively.

During the period 1956 through 1960, governments will stress the production of bread grains which may reach around 80 percent of prewar on a per capita basis by 1960. Very little change in the per capita production of coarse grains is to be expected throughout this period.

It is expected that exportable surpluses of bread grains from Eastern Europe to Western Europe will be relatively insignificant for many years to come. However, in years of exceptional harvests, or under pressure of political expediency, or as a means of obtaining critically short capital equipment, sporadic shipments to the West may be expected. Nevertheless, until and if there is a shift in the Iron Curtain, the general policy of the Satellite countries under the tutelage of the Kremlin is expected to be directed toward inter-Satellite trade with shipments of such over-all surpluses, as may from time to time develop, toward the East rather than toward the West.

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THE GRAIN SITUATION IN MANCHURIA<sup>1</sup>

Prior to World War II, Manchuria was nearly self-sufficient in the production of grains. Imports averaged 514 thousand metric tons per year of which 464 thousand tons were bread grains and 50 thousand tons were rice. Exports averaged 401 thousand metric tons of which 309 thousand tons were millets and 92 thousand tons were corn. The net import balance during the period 1933 through 1937 averaged 113 thousand tons per year, or about one percent of the 10,171 thousand tons used domestically.

1946 AND 1947 PRODUCTION AND EXPECTANCY IN 1950, 1955 AND 1960 COMPARED TO PRODUCTION PRIOR TO WORLD WAR II

The production of grain prior to World War II compared to estimated current and prospective production through 1960 is summarized in Table 12. This summary is presented and discussed in terms of bread grains, coarse grains, and total grain including rice.

TABLE 12.—GRAIN: Production in MANCHURIA. Estimates for 1946 and 1947 and expectancy for 1950, 1955 and 1960 compared with the prewar average

Year	Bread Grains	Coarse Grains	Total Grains Including Rice
1,000 Metric Tons			
Prewar	981	9,863	11,298
1946	392	9,531	10,137
1947	544	8,930	9,688
1950	800	10,980	12,130
1955	1,100	11,960	13,460
1960	1,200	12,400	14,020

1. BREAD GRAINS.

The bread grain harvest in 1947 is estimated at 544 thousand metric tons compared to 392 thousand tons in 1946, an increase of 152 thousand tons or 39 percent. Compared to prewar production, however, the 1947 harvest was 437 thousand tons (45 percent) below the prewar average of 981 thousand tons. It is believed that bread grain production will increase in future years and by 1960 will approximate 1,200 thousand tons or 219 thousand tons (22 percent) above prewar production.

2. COARSE GRAINS.

The production of coarse grains in 1947 is estimated to be 8,930 thousand metric tons, or a decrease of 600 thousand tons (6 percent) below the 9,531 thousand tons produced in 1946. Compared to prewar production, the 1947 harvest was 933 thousand

<sup>1</sup> Area referred to includes Jehol, Chahar, and Hopei. Because of lack of comparable information, it was necessary to compute some of the estimates of prewar production in Manchuria from statistical data covering less than the whole five-year period 1935-1939. The term grain as used in this analysis refers only to the cereals.

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tons (9 percent) below the prewar average production of 9,863 thousand tons. It is expected that coarse grain production will increase to about 12,400 thousand tons by 1960 or an increase of approximately 25 percent compared to prewar harvests.

3. TOTAL GRAIN.

The total grain production including rice in Manchuria during 1947 was 9,688 thousand metric tons. This represents a decrease of 449 thousand tons (4 percent) below the 10,137 thousand tons produced in 1946 and a decrease of 1,610 thousand tons (14 percent) below the prewar average production of 11,298 thousand tons. The production of all grains is expected to increase to 12,130 thousand tons in 1950 (8 percent above prewar) to 13,460 thousand tons in 1955 (20 percent above prewar) and to 14,020 thousand tons in 1960, or 24 percent above prewar production.

RELATIONSHIP OF GRAIN PRODUCTION TO TOTAL POPULATION

Population in Manchuria has been increasing rapidly in recent years (about 1.5 percent per year) and it is expected that the present rate of increase will continue throughout the period covered in this analysis. The relationship of total population to grain production is summarized in Table 13.

TABLE 13.—GRAIN: Per capita production in MANCHURIA expressed in kilograms per person per year, and as a percentage of the prewar average compared with estimates for 1946 and 1947 and with the expectancies for 1950, 1955, and 1960

Consumption Year	Bread Grains		Coarse Grains		Total Grain Inc. Rice	
	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent	Kgs. Per Yr.	Percent
Prewar	23	100	232	100	266	100
1946	8	35	198	85	210	79
1947	11	48	183	79	198	74
1950	16	70	215	93	237	89
1955	20	87	218	94	245	92
1960	20	87	211	91	239	90

The production estimates of grains shown in Table 12 indicate that the total harvest of all cereals in 1950 of 12,130 thousand metric tons will exceed the average annual production of 11,298 thousand metric tons during the prewar period by 8 percent. When the production is expressed on a per capita basis, however, the total grain harvest in 1950 will be about 89 percent of prewar production. By 1960 the per capita production of bread grains will be approximately 87 percent of prewar; coarse grains about 91 percent and total grains 90 percent of prewar harvests.

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## INTERNATIONAL TRADE OF GRAINS IN SPECIFIED COUNTRIES

### 1. PREWAR BACKGROUND.

Two of the areas included in this analysis, the Soviet Union and the group of selected Eastern European countries taken as a whole, were net exporters of grain during the five-year period 1933-34 through 1937-38, the latest prewar period for which comparable data on international trade in grains are available. Manchuria was a net importer of grains.

The Soviet Union imports a small quantity of rice from the Far East, but exported annually an average of 2,009 thousand metric tons of other grain, of which 851 thousand tons were bread grains and 1,158 thousand tons were coarse grains. The coarse grain was composed of 838 thousand tons of barley, 226 thousand tons of corn and 94 thousand tons of oats. In order of their importance, the principal export markets for bread grains were the United Kingdom, Germany, Netherlands, Italy, and Denmark. Coarse grain shipments went to Germany, United Kingdom, Netherlands, Italy, and Denmark.

Each of the Eastern European Satellite countries, except Bulgaria, imported rice totaling 168 thousand metric tons annually, chiefly from Burma and Siam. Bulgaria exported an average of 1,000 metric tons of rice annually (see Appendix II for details). Finland was a cereal deficit country importing an average of 159 thousand tons of bread grains and 82 thousand tons of coarse grains per year. The bulk of these grains originated overseas, although in some years relatively small quantities were received from the Danube Basin and Russia. Czechoslovakia was, on balance, a grain deficit country importing 34 thousand tons of bread grains and 55 thousand tons of coarse grains, chiefly from the Danube Basin. An average of 20 thousand tons of wheat was exported annually, chiefly to Austria. Albania imported an average of 35 thousand tons of wheat and 2 thousand tons of rice per year.

The other five countries were net exporters of cereals. Some grain each year was shipped from one or another of these countries to Czechoslovakia and in some years small shipments were made to Finland, but the bulk of the exports were destined for Western Europe. Rumania was the largest exporter, shipping annually an average of 360 thousand tons of bread grains and 666 thousand tons of coarse grains, chiefly to Austria, United Kingdom, and Germany with smaller quantities to almost all of the other Western European countries. Poland was the second largest exporting country of this group and shipped an average of 560 thousand metric tons of bread grains, principally to Germany, the Low Countries, and the United Kingdom. Yugoslavia exported annually 158 thousand tons of bread grains and 487 thousand tons of coarse grains chiefly to Austria, Czechoslovakia, Germany, and Italy. Hungary exported on the average 585 thousand tons of bread grains (chiefly wheat) and 40 thousand tons of coarse grains largely to Austria, Italy, Switzerland, and Finland. Bulgaria made small annual exports averaging 105 thousand tons of bread grains and 96 thousand tons of coarse grains, chiefly to the United Kingdom, Belgium, and Italy.

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The combined average exports from these five countries before the war totaled 1,768 thousand metric tons of bread grains and 1,605 thousand tons of coarse grains, or 3,373 thousand metric tons in all. In addition, Bulgaria exported approximately one thousand tons of rice per year.

Manchuria imported an average of 464 thousand metric tons of wheat largely from Australia with relatively small tonnages from Canada, and 50 thousand tons of rice chiefly from Siam. An average of 309 thousand metric tons of millets and 92 thousand metric tons of corn were exported each year to Korea and deficit areas within China.

2. CURRENT TRADE.

Of the three areas included in this analysis (the Soviet Union, the Eastern European Satellite countries, and Manchuria), the Soviet Union is the only area from which a significant quantity of grains is being exported from the production of 1947. As of 1 January 1948, trade agreements had been concluded between the Soviet Union and certain European countries for the export of 2,365 thousand metric tons of grains during 1947-48. These agreements included 1,190 thousand metric tons of bread grains and 1,175 thousand metric tons of coarse grains. The European countries involved in these trade agreements, the cereal grain commitments made by the Soviet Union to each country, and the shipping program are summarized in Table 9. Further details of current international trade in grain of the Eastern European Satellite countries are given in Appendix II.<sup>1</sup>

During 1947-48 the deficit of Finland is being covered chiefly by shipments from the Soviet Union with smaller imports from the United States and Argentina. Czechoslovakia expects to cover the bulk of its deficit by imports from the Soviet Union. Small shipments of grains were made during the latter part of 1947 from the United States and Canada, and it is reported that Hungary has supplied or will supply a considerable quantity of wheat (for the credit of the Soviet Union) and that Argentina will supply up to 30 thousand metric tons. Albania has a small 1947-48 deficit which may remain uncovered, but grain for military requirements may be imported. Poland's current grain deficit has been partially covered by small shipments from the United States and Canada and large imports from the Soviet Union. Rumania is deficient in small grains and has received both wheat and barley from the Soviet Union, but is long on corn and claims to be in the export market with more than one million metric tons. Before the 1947 crop became available, the United States and Argentina shipped considerable quantities of coarse grains and some bread grains to Rumania. Bulgaria is deficient in small grains, but has a surplus of corn. The Soviet Union is reported to have shipped both wheat and barley to Bulgaria for civilian consumption. A recent report indicates that the Soviet Union will ship an additional 75 thousand metric tons which may have a military significance. On the other hand, it is reported that Bulgaria has offered corn to Italy. Although Hungary is statistically deficit in grain for its 1947-48 requirements, it is reported that 100 thousand metric tons of grain have been or will be extracted as reparations due the Soviet Union. This grain is said to be destined for

<sup>1</sup> Also see Addendum, page 49.

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Czechoslovakia. Yugoslavia is the only country in Eastern Europe which has a favorable 1947-48 grain balance. Reports up to 1 January 1948 indicate that Yugoslavia will ship grain (probably corn) to Italy and Belgium.

It is too early to compute a 1947-48 grain balance for the Eastern European Satellite countries, but it is evident (as of 1 January 1948) that this area taken as a whole has deteriorated from its prewar position of producing a net surplus of nearly 2,861 thousand metric tons to a position of being materially deficient in grain production to cover the 1947-48 consumption requirements.

There is no information available at the present time concerning Manchuria with regard to recent trade agreements or current negotiations for the import or export of grain.

A summary of the production, imports, and exports of grain during the five-year period 1933-34 through 1937-38 for all countries included in this analysis is given in Table 14.

### 3. TRADE EXPECTANCY IN 1950, 1955, AND 1960.

It is to be expected during the next three years that the Soviet Union will steadily increase its grain production and by 1950-51 its export potential will be greater than it was in 1947-48. During the following ten years the rate of production will tend to increase more rapidly than that of population so that by 1960, surplus production, that is, production in excess of domestic requirements, may be expected to be 3 or more percent greater than before the war. The surplus grain produced in the Soviet Union, however, cannot be expected to be sufficient to cover the import requirements of Western Europe.

Although considerable improvement may be expected during the next three years in the grain production of the Eastern European Satellite countries, there is expected to be a shift away from the production of bread grains toward coarse grains. By 1950-51 little, if any, bread grain tonnage is expected to be available for shipment to Western Europe though some coarse grain (particularly corn) may be offered for international trade.

During the following five years, the agriculture of this group of countries is expected to be in a confused state with a general drop in production, thus further reducing export potentialities during 1951-56.

Although some improvement in production is to be expected after 1955, it is not believed that the agricultural potential of these countries will have regained a sufficiently favorable position to enable them to export any considerable quantity of bread grains to Western Europe or to be a material source of supply to the Soviet Union. It is not improbable that because of confusion of agricultural production (see Appendix II), a materially reduced standard of living may be imposed upon the masses of non self-suppliers in these countries as has been the case in the Soviet Union.

The expectancy in Manchuria is not clear because of the paucity of information.

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TABLE 14.—AVERAGE ANNUAL GRAIN PRODUCTION AND TRADE IN SELECTED COUNTRIES  
DURING THE PERIOD 1933-34 THROUGH 1937-38  
(Preliminary)

Specified Country	(1,000 Metric Tons)									
	Bread Grains			Coarse Grains			Total Grains (including rice)			
Production	Net Imports	Net Exports	Production	Net Imports	Net Exports	Production	Imports	Exports	Total Net Exports	
Soviet Union (in Europe and Asia)	53,502	..	851	39,230	..	1,158	92,908	22	2,009	1,987
Eastern Europe										
Finland	440	159	..	798	82	..	1,238	254	..	..
Poland	8,500	..	560	4,855	..	316	13,355	43	876	..
Czechoslovakia	3,157	14	..	2,545	55	..	5,702	130	..	..
Hungary	2,933	..	585	3,066	..	40	5,999	19	625	..
Rumania	2,679	..	360	5,556	..	666	8,235	15	1,026	..
Yugoslavia	2,559	..	158	5,281	..	487	7,842	15	645	..
Bulgaria	1,670	..	105	1,449	..	96	3,130	..	202	..
Albania	48	35	..	145	..	..	193	37	..	..
Eastern Europe Sub-total	21,986	208	1,768	23,695	137	1,605	45,694	513	3,374	2,861
Manchuria	873	464	..	8,865	..	401	10,058	514	401	..
Total <sup>1</sup>	76,361	672	2,619	71,790	137	3,164	148,660	1,049	5,784	4,735

<sup>1</sup> These totals involve the following quantities of interregional grain trade expressed in thousands of metric tons; wheat and wheat flour expressed as wheat 135; rye and rye flour expressed as rye 74; barley 6; oats 12; corn 251; rice 1; and other grains 30.

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## APPENDIX I

### GRAIN SITUATION IN SELECTED EASTERN EUROPEAN COUNTRIES

#### 1. THE PREWAR SITUATION.

The Eastern European countries selected for analysis include three countries—Finland, Czechoslovakia, and Albania, which before the war were deficit in total grain production, importing during the five-year period 1933-1934 through 1937-1938 an average of 421 thousand metric tons (including rice) to supplement their combined indigenous production of 7.1 million metric tons. This indicates a combined total domestic supply of 7.5 million metric tons for the three importing countries.

The group also includes five countries—Poland, Hungary, Rumania, Yugoslavia, and Bulgaria, which before the war were surplus in total grain production exporting during the five-year period 1933-1934 through 1937-1938 an average of 3.3 million metric tons from a combined indigenous production of 38.6 million metric tons. This indicates a combined total domestic supply of 35.3 million metric tons for the five exporting countries.

Considering this selected group of eight Eastern European countries as a whole, the average production of total grains (including small quantities of rice) during the five-year period 1933-34 through 1937-1938 was 45.7 million metric tons from which net exports totaled 2.9 million metric tons or 6.3 percent. This indicates an over-all domestic supply of 42.8 million metric tons.

The group taken as a whole was 107.6 percent self-sufficient in bread grains, 106.6 percent self-sufficient in coarse grains, but 93.3 percent deficient in rice.

Average annual exports (net) during this period averaged:

Grain	Thousands Metric Tons
Wheat	1,037
Rye	523
Bread Grains	1,560
Barley	618
Corn	728
Oats	92
Other	30
Coarse Grains	1,468
Sub-total	3,028
Imports (net) Rice	167
Total Net exports	2,861

There are no comparable data available for imports and exports after the consumption year 1 August 1937 through 31 July 1938. Comparable production data continue to be available for the years 1938 through 1939 and therefore the average of the

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five-year period 1935 through 1939 has been conventionally adopted as the prewar comparison period for production.

2. THE 1935-1939 COMPARISON BASE.

Considering the selected Eastern European group of countries as a whole the 1935-1939 production of total grains averaged 48.6 million metric tons or an average increase of 2.9 million metric tons (6.2 percent) over the 1933-1937 average of 45.7 million metric tons. Although the over-all difference between the two averages is small, there are often significant differences between countries and crops. Some of these differences are undoubtedly influenced by fluctuations in weather, but during the last year or two before the impending conflict was precipitated, significant changes in acreages were made in certain countries that on balance resulted in a positive upward trend in production. Therefore, the averages of the five-year period 1935-1939 are used when measuring the degree of shifts in the production potential during the war and postwar years.

3. THE 1947 SITUATION.

The 1947 combined total grain production in the selected Eastern European group of countries has been placed at 36.6 million metric tons which, although 6.1 million metric tons (20 percent) greater than the low production of 30.5 million tons in the drought year 1946, was still 9.1 million tons (20.0 percent) below the 1935-1939 average of 45.7 million tons, and 6.3 million tons (14.6 percent) below the average supply for domestic utilization of 42.8 million tons during the five-year period 1933-1934 through 1937-1938.

Because of population increases during 1938 and 1939, these two average differences from 1947 are not strictly comparable, but they do indicate that the populations of the area as a whole are in a deficit position in respect to total grains which on balance indicate the need for imports or, failing these, the necessity of reducing domestic consumption or other utilization.

The low production of 1947, as compared with the prewar averages, is in part attributable to climatic condition and also to the lowered agricultural potential following the devastations of war. Another factor adversely affecting the 1947 agricultural potential was the land reform instituted at the close of the war in Poland, Hungary, and Rumania, and to a lesser extent, in Czechoslovakia and Yugoslavia.

4. BREAD GRAINS.

The 1947 combined bread grain production in the selected Eastern European group of countries has been placed at 15.3 million metric tons which chiefly because of adverse weather conditions in the winter grain producing areas was 1.3 million metric tons (8 percent) below the 16.6 million metric tons produced in 1946 and 8.9 million metric tons (37 percent) below the 1935-1939 average production of 24.2 million metric tons. The 1947 production of bread grains was 5.1 million metric tons (25 percent) less than the 20.4 million metric tons average annual supply for domestic utilization during the five-year period 1933-1934 through 1937-1938.

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While weather conditions in the winter grain areas played a preponderant role in depressing the 1947 bread grain production below that of 1946, the relative level below the prewar averages was determined largely by the land reform (attended by a shift away from bread grain acreages) and, to a lesser degree, by war devastation that reduced the quality of the plowing, seeding, and other farm work on such acreages as were seeded.

##### 5. COARSE GRAINS.

The 1947 combined coarse grain production in the selected Eastern European group of countries has been placed at 21.2 million metric tons which, although 7.4 million metric tons (54 percent) more than the 1946 production of 13.8 million tons, was still 3.1 million tons (13 percent) below the 24.3 million tons average production during the five-year period 1935-1939. The 1947 coarse grain production was 980 thousand metric tons (4 percent) below the average supply available for domestic utilization during the five years 1933-1934 through 1937-1938.

The increased production of coarse grains in 1947 of 54 percent over 1946 was due not only to increased acreages but also to a peculiar combination of weather factors in the southern spring grain areas that was particularly favorable to corn. The more favorable relation of the 1947 production of coarse grains to the prewar averages than that of bread grains was determined to no small degree by a more rapid recovery of coarse grains following the land reform.

#### EXPECTANCY IN GRAIN PRODUCTION

During the three years 1948, 1949, and 1950 the general production trend in all of the selected Eastern European countries will be toward building up the agricultural potential. It is impossible to foresee the trends in individual countries accurately, although in Appendix III an attempt has been made to indicate expectancy in production for each of these countries in a general way.

##### 1. DEFICIT COUNTRIES.

In two of the food deficit countries, Czechoslovakia and Finland, where there has been little or no effect of the land reform, the immediate trend of production will be toward building up bread grains at the expense of coarse grains. By 1950, the build-up in bread grains may result in a production as much as 5 percent above the prewar 1935-1939 average accompanied by a loss in coarse grains of about 5 percent.

During the next five years, the over-all agricultural potential in both countries may be expected to increase. Bread grains may reach a production level of about 30 percent above prewar and coarse grains about 10 percent above the 1935-1939 average.

The tempo of the agricultural potential during the period 1956 through 1960 may be expected to slow down. Bread grains may reach a production of 35 to 40 percent above prewar by 1960, while coarse grains may increase to a level of 10 to 15 percent above the 1935-1939 average.

## 2. SURPLUS COUNTRIES.

In the surplus-producing countries — Poland, Hungary, Rumania, Yugoslavia, and Bulgaria — a general build-up of the agricultural potential from the low level following war devastation may be expected during 1948, 1949, and 1950. Because of the customary trend in peasant agriculture, following a land reform, coarse grains may be expected to build up more rapidly than bread grains, which by 1950 cannot be expected to recover to a level of more than 90 to 95 percent of the 1935-1939 average as compared with coarse grains which may recover to 95 to 100 percent of the prewar average.

Not only may the 1950 production of bread grains be appreciably below the pre-war average, but the several governments will find it increasingly difficult to collect sufficient foodstuffs to feed the non-farm population. Before the war, relatively large marketable surpluses for urban consumption and export were assembled from each of a relatively few large landed proprietors. After the land reform, such marketable surpluses as are available will have to be assembled from thousands of small proprietors. A similar situation developed in the Soviet Union after the first World War, and the system of small proprietors had to be abandoned in favor of re-establishing large units of production which were known as collective farms.

It would have been better economically from the governments' point of view if large-scale farming could have been established immediately after the Axis forces had been driven out of the several countries. But at that time the governments were not strong enough to risk the violent reaction of the peasants toward having their private property nationalized and consolidated into socialistic farming units. The support of the peasants was essential to the security of each of the so-called Communistic governments. To secure that support, or at least to lessen the opposition of the peasantry, large estates were expropriated and the land was parceled out to the peasants. This was contrary to the principles promulgated by the Moscow government in that this action strengthened the small farmer capitalists and increased their number by transforming landless rural proletariats into small landed capitalists. Not only is private land ownership in violation of the ideology of the Communists but the operation of a Socialist state is slowed down, if not threatened, by the difficulty of assembling food and materials to maintain non self-suppliers. As in the Soviet Union, this situation is bound to become increasingly serious, and therefore in each of the Satellite States, governments will sooner or later consider it essential to follow the example of the Soviet Union and expropriate small land holdings and livestock and establish large unit areas of production and large collectivized herds.

It is inevitable that such a step will be accompanied by some violence and bloodshed in the villages just as it was in the Soviet Union. It is to be expected that the confusion caused by sabotage of reluctant peasants will result in a sharp decline in the agricultural potential. It is assumed that collectivization followed by confusion in agriculture and a decline in production will occur for the area as a whole. This decline, however, does not apply to all the countries since Finland and Czechoslovakia are expected to improve their position. The decline in the other countries will be in varying degrees,

of course, and at different periods within the next few years. Around 1955 the agricultural potential for the area as a whole is expected to be below the level of 1950.

The tables in Appendix III give the productions attributable to the several crops in each of the specified countries. Taking the export countries as a whole, the drop in bread grains may be expected to be sharper than that in coarse grains and may fall to as much as 70 to 75 percent of the 1935-1939 average. Coarse grains may be expected to fall off to around 90 to 95 percent of prewar.

After collectivization, during which the better peasants probably will be driven out of the villages or confined in concentration camps, government pressure on the remaining peasants may be expected to cause agriculture to regain some of its lost potentiality during the period 1956 through 1960.

However, such gains prior to 1960 can hardly be expected to bring production up to the 1950 level. Bread grains may be expected to build up to around 80 percent of the 1935-1939 average and coarse grains to 85 to 90 percent of prewar.

The foregoing comparisons are intended only to bring out the probability that postwar recovery of the agricultural potential in the former export countries, now under the domination of the Moscow government, will receive a set-back sometime between 1950 and 1960, and that by the latter date these countries can scarcely be expected to have gained a production position to enable them to export any considerable quantity of bread grains to Western Europe or to be a material source of supply for the Soviet Union. It is not improbable that because of the confusion of agricultural production, a materially reduced standard of living may be imposed upon the masses of non self-suppliers in each of these countries as has been the case in the Soviet Union.

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## APPENDIX II

### THE 1947 PRODUCTION SITUATION IN SPECIFIED EASTERN EUROPEAN COUNTRIES IN RELATION TO SELF-SUFFICIENCY AND INTERNATIONAL TRADE

#### 1. FINLAND.

During the five-year period 1933-1934 through 1937-1938, Finland, with an average grain production of 1,238 thousand metric tons, imported 17.0 percent of its total cereal requirement of 1,492 thousand metric tons.

Indigenous production supplied 73 percent of the bread grains, 91 percent of the coarse grains, but none of the rice used domestically.

Imports during this period averaged 159 thousand metric tons of bread grains, 82 thousand metric tons of coarse grains, and 13 thousand metric tons of rice.

The 1947 total grain production in Finland was placed at 1,032 thousand metric tons, which was 101 thousand tons (10.8 percent) more than the 931 thousand tons produced in 1946, but was 289 thousand tons (21.8 percent) below the 1935-1939 average production of 1,321 thousand tons and 460 thousand metric tons below the 1933-1934 through 1937-1938 average domestic requirement.

To meet the consumption requirements of the year 1947-1948, Finland applied to the International Emergency Food Council for a grain allotment of 373 thousand tons of bread and coarse grains. After screening by the Cereal Committee, Finland's allotment was placed at 284 thousand tons, which, when added to the 1,032 thousand tons produced domestically would bring the total availability of grain up to the prewar average. The allotment was apportioned as follows: wheat and rye (including flour in terms of grain), 214 thousand tons; and coarse grains, 70 thousand tons.

Shipments of wheat and rye (including flour in terms of grains) to Finland during the six months which ended 31 December 1947 were 59 thousand long tons from the United States and 42 thousand long tons from Argentina. Since long ton shipments were counted as metric tons, there remain 113 thousand tons of bread grains and 70 thousand metric tons of coarse grains to be shipped during the first six to seven months of 1948.

A recent report indicates that the Soviet Union is committed to ship to Finland before the end of August 1948, 100 thousand metric tons of rye, 70 thousand tons of wheat, 80 thousand tons of oats, and 5 thousand tons of corn.

The situation in Finland is, at the date of this report, too obscure to more than indicate a deficit in grain production that will be more or less covered by imports for the most part from the Soviet Union.

If the Soviet Union fulfills its commitments, Finland will receive slightly more than 271 thousand metric tons of bread grains and 85 thousand metric tons of coarse grains to supplement indigenous production, bringing the total supply for 1947-1948 up to more than 1,388 thousand metric tons, or more than 86 percent of the 1933-1934 to 1937-1938 average.

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## 2. POLAND.

During the five-year period 1933-1934 through 1937-1938, Poland, with an average production of total grains of 13,355 thousand metric tons, exported 876 thousand tons or 6.6 percent of its indigenous production of bread grains and coarse grains, but imported 43 thousand metric tons of rice. This indicates an average total domestic supply of 12,422 thousand metric tons.

Poland was 107 percent self-sufficient in bread grains, 107 percent self-sufficient in coarse grains, but 100 percent deficient in rice.

Exports during this period averaged 560 thousand metric tons of bread grains and 316 thousand metric tons of coarse grains per year.

The 1947 total grain production of Poland was placed at 9,595 thousand metric tons, which, although 1,403 thousand metric tons (17 percent) above the 1946 production of 8,192 thousand metric tons, was still 32 percent below the average production of 14,328 thousand metric tons during the five-year period 1935-1939 and 2,827 thousand metric tons (22.8 percent) below the 1933-1934 through 1937-1938 average domestic supply.

To meet claimed consumption requirements of the year 1947-1948, Poland applied to International Emergency Food Council for an allotment of 884 thousand metric tons of total grain. After screening by the Cereal Committee, Poland's allotment was placed at 382 thousand metric tons as follows: wheat and rye (including flour in terms of grain), 327 thousand tons; and coarse grain, 55 thousand tons.

During the six months ended 31 December 1947, the United States and Canada shipped to Poland the equivalent of 67.7 thousand long tons of bread grains in lieu of an equal number of metric tons. This would leave 259.3 thousand tons of bread grains and 55 thousand metric tons of coarse grains, or a total of about 314 thousand metric tons to be obtained from other sources.

Poland received a commitment for 240 thousand metric tons of bread grains and 60 thousand metric tons of coarse grains to be shipped from the Soviet Union. It is reported that this commitment has been fulfilled.

If the allotment made by the International Emergency Food Council is covered, 14 thousand metric tons of grain are still to be received by Poland during the first six to seven months of 1948.

## 3. CZECHOSLOVAKIA.

During the five-year period 1933-1934 through 1937-1938, Czechoslovakia, with an average production of 5,702 thousand metric tons, imported 2.1 percent of its total grain requirement of 5,832 thousand metric tons.

Indigenous production supplied 99 percent of the bread grains and 98 percent of the coarse grains, but none of the rice used domestically.

Imports during this period averaged 14 thousand metric tons of bread grains, 55 thousand tons of coarse grains, and 61 thousand tons of rice per year.

The 1947 grain production of Czechoslovakia is estimated at 4,215 thousand metric tons which was 562 thousand tons (11.7 percent) below the 1946 production of 4,777

thousand tons and 1,545 thousand tons (26.8 percent) below the 1935-1939 average, and 1,617 thousand metric tons below the 1933-1934 through 1937-1938 average domestic requirement.

To meet the consumption requirements of the year 1947-1948, Czechoslovakia applied to International Emergency Food Council for an allotment of 1,075 thousand metric tons of grain. After screening by the Cereal Committee, Czechoslovakia's allotment was placed at 420 thousand metric tons composed of 320 thousand tons of wheat and rye (including flour in terms of grain), and 100 thousand tons of coarse grains.

During the six months 1 July to 31 December 1947, shipments and programs for shipment of wheat and rye (including flour in terms of grain) totaled 57.7 thousand metric tons and 30 thousand metric tons of coarse grains. Six thousand long tons (in lieu of metric tons) of wheat were shipped from the United States and 2,700 long tons from Canada, indicating that 49 thousand metric tons of bread grains and 30 thousand metric tons of coarse grains were received from other sources.

It is reported that Czechoslovakia has obtained commitments from the Soviet Union for the shipment of 400 thousand metric tons of bread grains and 200 thousand metric tons of coarse grains. Of these quantities, 50 thousand tons of bread grains and 50 thousand tons of coarse grains are reported to have been shipped or were to be shipped by 31 December 1947.

If 49 (50) thousand tons of bread grains and 30 thousand tons of coarse grains of the Soviet Union's commitment have been shipped to Czechoslovakia, then there remain 350 to 351 thousand tons of bread grains and 150 to 170 thousand metric tons of coarse grains to be shipped during the first six to seven months of 1948. This quantity of 500 to 521 thousand tons, if shipped, will probably have to be transported by rail through Poland or by barge up the Danube River. Doubt has been expressed as to the possibility of the Soviet government being able to ship such a quantity of grain (equivalent to more than 50,000 car loads of 10 tons per car) during the next few months over the single-track railroad through Southern Poland to a transfer point near the frontier of Czechoslovakia. Shipment by barge up the Danube would be still more difficult. There are reports that Czechoslovakia is to receive up to 30 thousand metric tons of grain from Argentina.

#### 4. HUNGARY.

During the five-year period 1933-1934 through 1937-1938, Hungary, with an average production of total grain of 5,999 thousand metric tons, exported 625 thousand metric tons or 10.4 percent of its indigenous production of bread and coarse grains, but imported 19 thousand tons of rice. This indicates an average total domestic supply of 5,393 thousand metric tons.

Hungary was 125 percent self-sufficient in bread grains, 101.3 percent self-sufficient in coarse grains, but 100 percent deficient in rice.

Exports during this period averaged 585 thousand metric tons of bread grains (chiefly wheat) and 40 thousand metric tons of coarse grains.

The 1947 total production of Hungary was placed at 4,145 thousand tons which, although 604 thousand metric tons (17 percent) above the 1946 production of 3,541

thousand metric tons, was still 37 percent below the average production of 6,543 thousand metric tons during the five-year period 1935-1939, and 1,248 thousand metric tons (23 percent) below the 1933-1934 through 1937-1938 average domestic supply.

There are reports that, in spite of an obvious shortage in supply of bread grains, Hungary is to pay the Soviet Union 100 thousand metric tons of wheat which will be shipped to Czechoslovakia for the account of the Soviet Union.

It has been reported that, in addition to wheat, Hungary would ship 30 thousand metric tons of coarse grain to Czechoslovakia.

##### 5. RUMANIA.

During the five-year period 1933-1934 through 1937-1938, Rumania, with an average production of total grains of 8,235 thousand metric tons, exported 1,026 thousand metric tons or 12.4 percent of its indigenous production of bread and coarse grains, but imported 15 thousand metric tons of rice. This indicates an average total domestic supply of 7,224 thousand metric tons.

Rumania was 116 percent self-sufficient in bread grains and 114 percent in coarse grains, but 100 percent deficient in rice.

Exports during this period averaged 360 thousand metric tons of bread grains and 666 thousand metric tons of coarse grains per year.

The 1947 production of grain in Rumania was estimated at 7,349 thousand metric tons which although 2,958 thousand tons (69.6 percent) (for the most part corn) above the poor production of 1946 placed at 4,391 thousand tons, was still 1,546 thousand tons (17.4 percent) below the average production during the five-year period 1935-1939 of 8,895 thousand metric tons, but 125 thousand metric tons (1.7 percent) greater than the 1933-1934 through 1937-1938 average domestic supply.

Rumania received during the last six months of 1947, 3,500 long tons of bread grains and 52 thousand long tons of corn from the United States as well as 6,100 metric tons of coarse grains from Argentina. These shipments were probably made to cover Rumania's most urgent pre-harvest requirements.

It is further reported that the Soviet Union shipped Rumania 60 thousand metric tons of wheat and 22 thousand tons of barley from the 1947 production.

Recent reports indicate that Rumania may have 1,200 thousand metric tons of corn available for export.

##### 6. YUGOSLAVIA.

During the five-year period 1933-1934 through 1937-1938, Yugoslavia, with an average production of total grain of 7,842 thousand metric tons, exported 645 thousand metric tons, or 7.3 percent of its indigenous production of bread and coarse grains, but imported 15 thousand metric tons of rice. This indicates an average total domestic supply of 7,212 thousand metric tons.

Yugoslavia was 107 percent self-sufficient in bread grains, 109 percent self-sufficient in coarse grains, but was 88 percent deficient in rice.

Exports during this period averaged 158 thousand metric tons of bread grains and 487 thousand metric tons of coarse grains (chiefly corn) per year.

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The 1947 grain production of Yugoslavia was estimated at 7,492 thousand metric tons which (chiefly because of a large corn production) was 2,122 thousand tons (39.5 percent) greater than the 5,370 thousand tons produced in 1946. The 1947 production was still 8.4 percent below 1935-1939 prewar average of 8,182 thousand metric tons, and 280 thousand metric tons greater than the 1933-1934 through 1937-1938 average domestic supply.

Since a large percentage of the South Slavs eat bread made from corn meal, Yugoslavia is the only country among the Satellite group that has not to date indicated a need for grain imports. On the other hand, it is rumored that Yugoslavia may offer grain, particularly corn, for export.

There are reports that Yugoslavia will ship grain (probably corn) to Italy and Belgium.

#### 7. BULGARIA.

During the five-year period 1933-1934 through 1937-1938, Bulgaria, with an average production of total cereals of 3,130 thousand metric tons, exported 202 thousand metric tons or 6.5 percent of its indigenous production of bread and coarse grains and rice. This indicates an average total domestic supply of 2,928 thousand metric tons.

Exports during this period averaged 105 thousand metric tons of bread grains, 96 thousand metric tons of coarse grains, and 1 thousand metric tons of rice.

The 1947 grain production of Bulgaria was estimated at 2,524 thousand metric tons which was 492 thousand tons (16.3 percent) less than the 3,016 thousand tons produced in 1946 and 24.4 percent below the average production of 3,340 thousand tons during the five-year period 1935-1939. The 1947 production was 404 thousand metric tons below the 1933-1934 through 1937-1938 average domestic supply.

The drought of 1947 adversely affected the production of small grains rather than corn, the production of which exceeded that of 1946. Following the harvest of 1947, wheat was doubtless in short supply and an appeal was made to Moscow. The Soviet Union shipped to Bulgaria 20 thousand metric tons of wheat and 5 thousand metric tons of barley which was evidently a gesture. Unless bread grain is shipped in the spring, the Bulgarian people, who are essentially wheat eaters, will have to substitute corn for wheat in the bread mixture or go on short rations.

It has been reported that Bulgaria will ship corn valued at \$780,000.00 (possibly 10 thousand metric tons) to Italy.

A recent report indicated that the Soviet Union will ship an additional 75 thousand metric tons of wheat to Bulgaria. This may have a military significance.

#### 8. ALBANIA.

During the five-year period 1933-1934 through 1937-1938, Albania with an average production of 193 thousand metric tons imported 16.1 percent of its grain requirement of 230 thousand metric tons.

Indigenous production supplied 58 percent of the bread grains, 100 percent of the coarse grains, but none of the rice used domestically. Imports during this period

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averaged 35 thousand metric tons of bread grains (wheat) and 2 thousand metric tons of rice.

The 1947 production of grain in Albania is estimated at 211 thousand metric tons or 26 thousand tons (11.0 percent) below the 1946 production of 237 thousand tons. The 1947 production was 11.1 percent above the average production during 1935-1939 of 190 thousand tons, but only 11 thousand metric tons below the 1933-1934 through 1937-1938 average domestic requirement.

Although the 1947 production of Albania was less than the normal prewar requirements, it is improbable that grain for civilian consumption will be imported during the consumption year 1947-1948, but there is the strong probability that grain to supply the requirements of Albanian or other military forces will be shipped through Yugoslavian ports to Tirana.

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### APPENDIX III

#### STATISTICAL SUMMARY OF THE GRAIN SITUATION IN SELECTED COUNTRIES IN 1947 COMPARED WITH ESTIMATES FOR 1946, WITH EXPECTANCIES FOR 1950, 1955, AND 1960 AND WITH PREWAR AVERAGES

Attached in Tables A through J are commodity summaries for the various grains, showing prewar (1933-1937) production and trade, estimated production for 1946 and 1947, and expectancy for 1950, 1955, and 1960 compared to prewar production during the 1935-1939 base period.

In Tables K, L, M, and N, attached, are summaries by areas and commodities showing production estimates for 1947 compared with production in 1946 and the average annual production during 1935-1939.

TABLE A.—WHEAT: PRODUCTION, TRADE, AND TOTAL SUPPLY IN SPECIFIED COUNTRIES  
(PRESENT BOUNDARIES)

Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for  
1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933-34 THROUGH 1937-38 <sup>1</sup>				PRODUCTION					
	(1,000 Metric Tons)				(1,000 Metric Tons)					
	Production	Imports <sup>2</sup>	Exports <sup>2</sup>	Total Supply	1935-39 <sup>3</sup>	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	30,892	621	30,271	33,756	21,300	23,800	29,000	33,500	40,000	
Eastern Europe										
Finland	110	111	..	221	166	220	217	225	275	300
Poland	2,000	..	104	1,896	2,014	1,143	1,252	1,800	1,200	1,500
Czechoslovakia	1,550	..	20	1,530	1,551	1,443	1,090	1,550	1,850	2,000
Hungary	2,206	..	503	1,703	2,492	1,127	1,090	1,500	1,100	1,300
Rumania	2,420	..	300	2,120	3,048	2,041	1,497	2,420	2,000	2,000
Yugoslavia	2,350	..	155	2,195	2,649	2,119	1,900	2,400	2,100	2,100
Bulgaria	1,460	..	101	1,359	1,744	1,841	1,090	2,000	1,800	1,800
Albania	45	35	..	80	41	60	54	60	50	45
Eastern Europe Sub-total	12,141	146	1,183	11,104	13,705	9,994	8,190	11,955	10,375	11,045
Manchuria	873	464	..	1,337	981	392	544	800	1,100	1,200
Total	43,906	610	1,804	42,712	48,442	31,686	32,534	41,755	44,975	52,245

<sup>1</sup> The latest five-year period for which international trade data are available on the basis of the consumption year 1 August to 31 July.

<sup>2</sup> Wheat and wheat flour in terms of grain.

<sup>3</sup> Conventional prewar comparison base for production.

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TABLE B.—RYE: PRODUCTION, TRADE, AND TOTAL SUPPLY IN SPECIFIED COUNTRIES  
(PRESENT BOUNDARIES)

Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for  
1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933-34 THROUGH 1937-38 <sup>1</sup>				PRODUCTION					
	(1,000 Metric Tons)				(1,000 Metric Tons)					
	Production	Imports <sup>2</sup>	Exports <sup>2</sup>	Total Supply	1935-39 <sup>3</sup>	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	22,610	230	22,380	22,000	21,800	23,300	22,500	24,600	27,500	
Eastern Europe										
Finland	330	48	..	378	312	183	201	375	390	400
Poland	6,500	..	456	6,044	7,214	4,064	4,826	6,500	4,800	6,000
Czechoslovakia	1,607	34	..	1,641	1,549	1,397	1,143	1,600	1,900	2,000
Hungary	727	..	82	645	746	424	432	600	400	500
Rumania	259	..	60	199	254	102	76	150	100	100
Yugoslavia	209	..	3	206	216	241	254	280	240	250
Bulgaria	210	..	4	206	205	216	178	220	200	200
Albania	3	..	..	3	3	4	3	3	3	3
Eastern Europe Sub-total	9,845	82	605	9,322	10,499	6,631	7,113	9,728	8,033	9,453
Manchuria										
Total	32,455	82	835	31,702	32,499	28,431	30,413	32,228	32,633	36,953

<sup>1</sup> The latest five-year period for which international trade data are available on the basis of the consumption year 1 August to 31 July.

<sup>2</sup> Rye and rye flours (sometimes rye and wheat flour) in terms of grain.

<sup>3</sup> Conventional prewar comparison base for production.

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TABLE C.—WHEAT AND RYE: PRODUCTION, TRADE, AND TOTAL SUPPLY IN SPECIFIED COUNTRIES (PRESENT BOUNDARIES)

Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for 1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933-34 THROUGH 1937-38 <sup>1</sup>				PRODUCTION					
	(1,000 Metric Tons)				(1,000 Metric Tons)					
	Production	Imports <sup>2</sup>	Exports <sup>2</sup>	Total Supply	1935-39 <sup>3</sup>	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	53,502	..	851	52,651	55,756	43,100	47,100	51,500	58,100	67,500
Eastern Europe										
Finland	440	159	..	599	478	403	418	600	665	700
Poland	8,500	..	560	7,940	9,228	5,207	6,078	8,300	6,000	7,500
Czechoslovakia	3,157	14	..	3,171	3,100	2,840	2,233	3,150	3,750	4,000
Hungary	2,933	..	585	2,348	3,238	1,551	1,522	2,100	1,500	1,800
Rumania	2,679	..	360	2,319	3,302	2,143	1,573	2,570	2,100	2,100
Yugoslavia	2,559	..	158	2,401	2,865	2,360	2,154	2,680	2,340	2,350
Bulgaria	1,670	..	105	1,565	1,949	2,057	1,268	2,220	2,000	2,000
Albania	48	35	..	83	44	64	57	63	53	48
Eastern Europe Sub-total	21,986	208	1,768	20,426	24,204	16,625	15,303	21,683	18,408	20,498
Manchuria	873	464	..	1,337	981	392	544	800	1,100	1,200
Total	76,361	672	2,619	74,414	80,941	60,117	62,947	73,983	77,608	89,198

<sup>1</sup> Latest five-year period for which international trade data are available on the basis of the consumption year 1 August to 31 July.

<sup>2</sup> Grain and flour in terms of grain.

<sup>3</sup> Conventional prewar comparison base for production.

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TABLE D.—BARLEY: PRODUCTION, TRADE, AND TOTAL SUPPLY IN SPECIFIED COUNTRIES  
(PRESENT BOUNDARIES)

Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for  
1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933-34 THROUGH 1937-38 <sup>1</sup>				PRODUCTION					
	(1,000 Metric Tons)				(1,000 Metric Tons)					
	Production	Imports	Exports	Total Supply	1935-39 <sup>2</sup>	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	8,698	..	838	7,860	9,253	4,500	6,700	7,500	7,900	8,500
Eastern Europe										
Finland	170	1	..	171	172	174	174	175	175	175
Poland	1,500	..	259	1,241	1,655	1,023	1,219	1,300	1,100	1,200
Czechoslovakia	1,096	..	50	1,046	1,128	807	805	1,100	1,250	1,300
Hungary	631	..	49	582	657	406	544	600	400	500
Rumania	740	..	237	503	610	261	327	500	250	400
Yugoslavia	411	..	10	401	409	320	402	350	320	325
Bulgaria	294	..	14	280	330	283	295	300	280	260
Albania	6	..	..	6	5	7	5	5	5	5
Eastern Europe Sub-total	4,848	1	619	4,230	4,966	3,281	3,771	4,330	3,780	4,165
Manchuria	184	..	..	184	141	109	131	140	180	200
Total	13,730	1	1,457	12,274	14,360	7,890	10,602	11,970	11,860	12,865

<sup>1</sup> The latest five-year period for which international trade data are available on the basis of the consumption year 1 August to 31 July.

<sup>2</sup> Conventional prewar comparison base for production.

~~CONFIDENTIAL~~TABLE E.—CORN: PRODUCTION, TRADE, AND TOTAL SUPPLY IN SPECIFIED COUNTRIES  
(PRESENT BOUNDARIES)Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for  
1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933-34 THROUGH 1937-38 <sup>1</sup> (1,000 Metric Tons)				PRODUCTION (1,000 Metric Tons)					
	Production	Imports	Exports	Total Supply	1935-39 <sup>2</sup>	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	4,413	226	4,187	4,110	2,000	3,200	4,500	6,000	6,500	
Eastern Europe										
Finland	67	..	67	..	..	..	..	..	..	..
Poland	5	3	..	8	6	4	5	5	5	5
Czechoslovakia	260	125	..	385	287	203	254	260	300	300
Hungary	2,136	25	..	2,161	2,337	1,392	1,860	2,000	2,000	2,000
Rumania	4,128	..	400	3,728	4,369	1,575	5,080	4,500	4,400	4,000
Yugoslavia	4,455	..	469	3,986	4,486	2,286	4,572	4,200	3,500	4,000
Bulgaria	896	..	79	817	792	484	785	930	900	900
Albania	127	..	..	127	129	152	137	150	150	150
Eastern Europe Sub-total	12,007	220	948	11,279	12,406	6,096	12,693	12,045	11,255	11,355
Manchuria	1,871	..	92	1,779	2,199	2,540	2,667	2,700	2,900	3,000
Total	18,291	220	1,266	17,245	18,715	10,636	18,560	19,245	20,155	20,855

<sup>1</sup>The latest five-year period for which international trade data are available on the basis of the consumption year 1 August to 31 July.<sup>2</sup>Conventional prewar comparison base for production.~~CONFIDENTIAL~~

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TABLE F.—OATS: PRODUCTION, TRADE, AND TOTAL SUPPLY IN SPECIFIED COUNTRIES  
(PRESENT BOUNDARIES)

Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for  
1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933-34 THROUGH 1937-38 <sup>1</sup> (1,000 Metric Tons)				PRODUCTION					
	Production	Imports	Exports	Total Supply	(1,000 Metric Tons)					
					1935-39 <sup>2</sup>	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	17,276	..	94	17,182	16,919	8,700	11,900	15,000	16,200	18,000
Eastern Europe										
Finland	608	14	..	622	652	348	433	500	560	600
Poland	2,900	..	51	2,849	2,961	1,669	2,003	2,500	1,700	2,000
Czechoslovakia	1,176	..	20	1,156	1,233	843	856	1,200	1,400	1,500
Hungary	279	..	13	266	291	181	203	250	200	200
Rumania	623	..	15	608	544	406	348	500	400	400
Yugoslavia	322	..	6	316	318	312	305	380	315	350
Bulgaria	116	..	1	115	116	116	109	140	120	120
Albania	10	..	..	10	10	11	9	10	10	10
Eastern Europe Sub-total	6,034	14	106	5,942	6,125	3,886	4,266	5,480	4,705	5,180
Manchuria	35	..	..	35	45	102	132	140	180	200
Total	23,345	14	200	23,159	23,089	12,688	16,298	20,620	21,085	23,380

<sup>1</sup> The latest five-year period for which international trade data are available on the basis of the consumption year 1 August to 31 July.

<sup>2</sup> Conventional prewar comparison base for production.

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TABLE G.—OTHER COARSE GRAINS:<sup>1</sup> PRODUCTION, TRADE, AND TOTAL SUPPLY IN  
SPECIFIED COUNTRIES (PRESENT BOUNDARIES)

Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for  
1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933 THROUGH 1937 <sup>2</sup>				PRODUCTION					
	(1,000 Metric Tons)				(1,000 Metric Tons)					
	Production	Imports	Exports	Total Supply	1935-39 <sup>3</sup>	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	8,843	..	..	8,843	9,000	4,000	5,888	6,100	6,900	7,700
Eastern Europe										
Finland	20	..	..	20	19	6	7	10	16	20
Poland	450	..	9	441	478	289	290	450	475	500
Czechoslovakia	13	..	..	13	12	84	67	80	90	90
Hungary	20	..	3	17	20	11	16	20	20	20
Rumania	65	..	14	51	70	6	21	60	70	70
Yugoslavia	93	..	2	91	101	88	56	60	80	100
Bulgaria	143	..	2	141	142	71	57	60	130	150
Albania	2	..	..	2	2	3	3	3	3	3
Eastern Europe Sub-total	806	..	30	776	844	558	517	743	884	953
Manchuria	6,775	..	309	6,466	7,478	6,780	6,000	8,000	8,700	9,000
Total	16,424	..	339	16,085	17,322	11,338	12,405	14,843	16,484	17,653

<sup>1</sup> Grains other than the five chief cereals and rice, including maslin, millets, broom-corn, kaoliang, buckwheat, spelt, etc. In the Soviet Union present boundaries "other grains" include a small quantity of pulses.

<sup>2</sup> Calendar years.

<sup>3</sup> Conventional prewar comparison base for production.

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~~CONFIDENTIAL~~TABLE H.—TOTAL COARSE GRAINS:<sup>1</sup> PRODUCTION, TRADE, AND TOTAL SUPPLY IN SPECIFIED COUNTRIES (PRESENT BOUNDARIES)

Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for 1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933 THROUGH 1937 (1,000 Metric Tons)				PRODUCTION (1,000 Metric Tons)				
	Production	Imports	Exports	Total Supply	1935-39	1946	1947	1950	1955
									1960
Soviet Union (in Europe and Asia)	39,230	1,158	38,072	39,282	19,200	27,688	33,100	37,000	40,700
Eastern Europe									
Finland	798	82	..	880	843	528	614	685	751
Poland	4,855	316	4,539	5,100	2,985	3,517	4,255	3,280	3,705
Czechoslovakia	2,545	55	..	2,600	2,660	1,937	1,982	2,640	3,040
Hungary	3,066	40	3,026	3,305	1,990	2,623	2,870	2,620	3,190
Rumania	5,556	666	4,890	5,593	2,248	5,776	5,560	5,120	4,870
Yugoslavia	5,281	487	4,794	5,314	3,006	5,335	4,990	4,215	4,775
Bulgaria	1,449	..	96	1,353	1,380	954	1,246	1,430	1,430
Albania	145	..	..	145	146	173	154	168	168
Eastern Europe Sub-total	23,695	137	1,605	22,227	24,341	13,821	21,247	22,598	20,624
Manchuria	8,865	..	401	8,464	9,863	9,531	8,930	10,980	11,960
Total	71,790	137	3,164	68,763	73,486	42,552	57,865	66,678	69,584
									74,753

<sup>1</sup> Includes barley, oats, corn, buckwheat, maslin, millets, spelt, broom-corn, kaoliang (Manchuria), and small quantities of other unspecified grains, but does not include rice.

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TABLE I.—RICE (MILLED)<sup>1</sup>: PRODUCTION, TRADE, AND TOTAL SUPPLY IN SPECIFIED COUNTRIES (PRESENT BOUNDARIES)

Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for 1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933 THROUGH 1937 <sup>2</sup> (1,000 Metric Tons)				PRODUCTION (1,000 Metric Tons)					
	Production	Imports	Exports	Total Supply	1935-39	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	176	22	..	198	215	159	199	215	230	250
Eastern Europe										
Finland	..	13	..	13	..	..	..	..	..	..
Poland	..	43	..	43	..	..	..	..	..	..
Czechoslovakia	..	61	..	61	..	..	..	..	..	..
Hungary	..	19	..	19	..	..	..	..	..	..
Rumania	..	15	..	15	..	..	..	..	..	..
Yugoslavia	2	15	..	17	3	4	3	4	3	3
Bulgaria	11	..	1	10	11	5	10	13	10	10
Albania	..	2	..	2	..	..	..	..	..	..
Eastern Europe Sub-total	13	168	1	180	14	9	13	17	13	13
Manchuria	320	50	..	370	454	214	214	350	400	420
Total	509	240	1	748	683	382	426	582	643	683

<sup>1</sup> Rough rice converted to milled rice basis at rate of 65 percent in Europe and 70 percent in Asia.

<sup>2</sup> Calendar years.

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~~CONFIDENTIAL~~TABLE J.—TOTAL GRAINS<sup>1</sup>: PRODUCTION, TRADE, AND TOTAL SUPPLY IN SPECIFIED COUNTRIES (PRESENT BOUNDARIES)

Prewar Average 1933-37 Compared with Production Average 1935-1939; Approximations for 1946 and 1947, and Expectancy in 1950, 1955 and 1960

Specified Country	AVERAGE 1933 THROUGH 1937				PRODUCTION					
	(1,000 Metric Tons)				(1,000 Metric Tons)					
	Production	Imports	Exports	Total Supply	1935-39	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	92,908	22	2,009	90,921	95,253	62,459	74,987	84,815	95,330	108,450
Eastern Europe										
Finland	1,238	254		1,492	1,321	931	1,032	1,285	1,416	1,495
Poland	13,355	43	876	12,522	14,328	8,192	9,595	12,555	9,280	11,205
Czechoslovakia	5,702	130		5,832	5,760	4,777	4,215	5,790	6,790	7,190
Hungary	5,999	19	625	5,393	6,543	3,541	4,145	4,970	4,120	4,520
Rumania	8,235	15	1,026	7,224	8,895	4,391	7,349	8,130	7,220	6,970
Yugoslavia	7,842	15	645	7,212	8,182	5,370	7,492	7,674	6,558	7,128
Bulgaria	3,130		202	2,928	3,340	3,016	2,524	3,663	3,440	3,440
Albania	193	37		230	190	237	211	231	221	216
Eastern Europe Sub-total	45,694	513	3,374	42,833	48,559	30,455	36,563	44,298	39,045	42,164
Manchuria	10,058	514	401	10,171	11,298	10,137	9,688	12,130	13,460	14,020
Total	148,660	1,049	5,784	143,925	155,110	103,051	121,238	141,243	147,835	164,634

<sup>1</sup> Includes rice.

~~CONFIDENTIAL~~TABLE K.—COMMODITY SUMMARY FOR ALL AREAS TAKEN AS A WHOLE<sup>1</sup>

	Estimated Production			1947 Production Compared With					
	1935-1939		1946	1947	1946		1935-1939		
	1,000 Metric Tons	1,000 Metric Tons	1,000 Metric Tons	1,000 Metric Tons	Per Cent	1,000 Metric Tons	Per Cent		
Wheat	48,442	31,686	32,534	+	848	+	2.7	—15,908	—32.8
Rye	32,499	28,431	30,413	+	1,982	+	7.0	—2,086	—6.4
Bread Grains	80,941	60,117	62,947	+	2,830	+	4.7	—17,994	—22.2
Barley	14,360	7,890	10,602	+	2,712	+	34.4	—3,758	—26.2
Corn	18,715	10,636	18,560	+	7,924	+	74.5	—155	—0.8
Oats	23,089	12,688	16,298	+	3,610	+	28.5	—6,791	—29.4
Other Coarse Grains	17,322	11,338	12,405	+	1,067	+	9.4	—4,917	—28.4
Total Coarse Grains	73,486	42,552	57,865	+	15,313	+	36.0	—15,621	—21.3
Rice	683	382	426	+	44	+	11.5	—257	—37.6
Total Grains	155,110	103,051	121,238	+	18,187	+	17.7	—33,872	—21.8

<sup>1</sup> Areas include the Soviet Union, Manchuria, and the following Eastern European countries: Finland, Poland, Czechoslovakia, Hungary, Rumania, Yugoslavia, Bulgaria, and Albania.

TABLE L.—COMMODITY SUMMARY FOR SOVIET UNION

	Estimated Production			1947 Production Compared With					
	1935-1939		1946	1947	1946		1935-1939		
	1,000 Metric Tons	1,000 Metric Tons	1,000 Metric Tons	1,000 Metric Tons	Per Cent	1,000 Metric Tons	Per Cent		
Wheat	33,756	21,300	23,800	+	2,500	+	11.7	—9,956	—29.5
Rye	22,000	21,800	23,300	+	1,500	+	6.9	—1,300	—5.9
Bread Grains	55,756	43,100	47,100	+	4,000	+	9.3	—8,656	—15.5
Barley	9,253	4,500	6,700	+	2,200	+	48.8	—2,553	—27.6
Corn	4,110	2,000	3,200	+	1,200	+	60.0	—910	—22.1
Oats	16,919	8,700	11,900	+	3,200	+	36.8	—5,019	—29.6
Other Coarse Grains	9,000	4,000	5,888	+	1,888	+	47.2	—3,112	—34.6
Total Coarse Grains	39,282	19,200	27,688	+	8,488	+	44.2	—11,594	—29.5
Rice	215	159	199	+	40	+	25.2	—16	—7.4
Total Grains	95,253	62,459	74,987	+	12,528	+	20.1	—20,266	—21.3

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TABLE M.—COMMODITY SUMMARY FOR SELECTED EASTERN EUROPEAN COUNTRIES<sup>1</sup>

	Estimated Production			1947 Production Compared With			
	1935-1939		1946	1947	1946		1935-1939
	1,000 Metric Tons	1,000 Metric Tons	1,000 Metric Tons	1,000 Metric Tons	Per Cent	1,000 Metric Tons	Per Cent
Wheat	13,705	9,994	8,190	-1,804	- 18.1	— 5,515	-40.2
Rye	10,499	6,631	7,113	+ 482	+ 7.3	— 3,386	-32.2
Bread Grains	24,204	16,625	15,303	-1,322	- 8.0	— 8,901	-36.8
Barley	4,966	3,281	3,771	+ 490	+ 14.9	— 1,195	-24.0
Corn	12,406	6,096	12,693	+6,597	+108.2	— 287	+ 2.3
Oats	6,125	3,886	4,266	+ 380	+ 9.8	— 1,859	-30.4
Other Coarse Grains	844	558	517	- 41	- 7.3	— 327	-38.4
Total Coarse Grains	24,341	13,821	21,247	+7,426	+ 53.7	— 3,094	-12.7
Rice	14	9	13	+ 4	+ 44.4	— 1	- 7.1
Total Grains	48,559	30,455	36,563	+6,108	+ 20.1	-11,996	-24.7

<sup>1</sup> Countries included are: Finland, Poland, Czechoslovakia, Hungary, Rumania, Yugoslavia, Bulgaria, and Albania.

TABLE N.—COMMODITY SUMMARY FOR MANCHURIA

	Estimated Production			1947 Production Compared With			
	1935-1939		1946	1947	1946		1935-1939
	1,000 Metric Tons	1,000 Metric Tons	1,000 Metric Tons	1,000 Metric Tons	Per Cent	1,000 Metric Tons	Per Cent
Wheat	981	392	544	+152	+38.8	— 437	- 44.5
Bread Grains <sup>1</sup>							
Barley	141	109	131	+ 22	+20.2	— 10	- 7.1
Corn	2,199	2,540	2,667	+127	+ 5.0	+ 468	+ 21.3
Oats	45	102	132	+ 30	+29.4	+ 87	+193.3
Other Coarse Grains	7,478	6,780	6,000	-780	-11.5	-1,478	- 19.8
Total Coarse Grains	9,863	9,531	8,930	-601	- 6.3	— 933	- 9.5
Rice	454	214	214	0	0	— 240	- 52.9
Total Grains	11,298	10,137	9,688	-449	- 4.4	-1,610	- 14.2

<sup>1</sup> Same as wheat.

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## APPENDIX IV

## THE RELATIONSHIP OF GRAIN PRODUCTION TO TOTAL POPULATION

In analyzing the food position of a particular country or area, it is conventional to relate current production or expectancy for any given period to prewar production. If the population of the area concerned is changing, as is true of all the areas included in this analysis (see Table R, Appendix V), it is necessary to relate production to population in order to obtain more accurate relationships.

In this analysis the five-year period 1935-1936 through 1939-1940 has been used as a prewar base and the production per capita given an arbitrary value of 100. Estimated production per capita for subsequent years has been computed and expressed as a percentage of production per capita during the 1935-1939 base period. These relationships for each country included in this report expressed in terms of bread grains, coarse grains, and total grains including rice are summarized in the following tables:

TABLE O.—BREAD GRAIN<sup>1</sup> PRODUCTION PER CAPITA. Estimates for 1946 and 1947 and Expectancy for 1950, 1955, and 1960 Expressed in Kilograms Per Person Per Year and as Percentages of the Prewar Average 1935-1939

Specified Country	Percent Self- Sufficient Prewar <sup>2</sup>	1935-1939		1946		1947		1950		1955		1960	
		Kgs. Per Year	Percent										
Soviet Union (in Europe and Asia)	102	296	100	225	76	244	82	262	88	278	94	305	103
Eastern Europe													
Finland	73	150	100	104	69	109	73	150	100	161	107	168	112
Poland	107	289	100	219	76	256	89	339	117	233	81	278	96
Czechoslovakia	99	214	100	231	108	183	86	252	118	294	137	308	144
Hungary	125	360	100	167	46	164	46	223	62	155	43	180	50
Rumania	116	216	100	130	60	95	44	151	70	118	55	114	53
Yugoslavia	107	181	100	154	85	141	78	168	93	140	77	134	74
Bulgaria	107	296	100	293	99	179	60	306	103	263	89	250	85
Albania	58	41	100	56	136	50	122	52	127	47	115	36	88
Eastern Europe Sub-total	108	249	100	186	75	171	69	236	93	192	77	206	80
Manchuria	65	23	100	8	35	11	48	16	70	20	87	20	87
Total	103	246	100	183	74	190	77	218	89	216	88	235	95

<sup>1</sup> Bread grains include wheat and rye.

<sup>2</sup> Five-year period 1933-1934 through 1937-1938.

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TABLE P.—COARSE GRAIN<sup>1</sup> PRODUCTION PER CAPITA. Estimates for 1946 and 1947 and Expectancy for 1950, 1955, and 1960 Expressed in Kilograms Per Person Per Year and as Percentages of the Prewar Average 1935-1939

Specified Country	Percent Self-Sufficient Prewar <sup>2</sup>	1935-1939		1946		1947		1950		1955		1960	
		Kgs. Per Year	Percent										
Soviet Union (in Europe and Asia)	103	208	100	99	48	145	70	168	81	177	85	184	88
Eastern Europe													
Finland	91	265	100	136	51	156	59	171	65	182	69	187	71
Poland	107	159	100	126	79	148	93	174	109	127	80	137	86
Czechoslovakia	98	184	100	157	85	163	89	211	115	238	129	245	133
Hungary	101	368	100	214	58	282	77	305	82	270	73	272	74
Rumania	114	366	100	136	37	348	95	327	89	288	79	263	72
Yugoslavia	110	336	100	196	58	349	104	312	93	252	75	273	81
Bulgaria	107	210	100	136	65	175	83	197	94	188	90	179	85
Albania	100	138	100	152	110	134	97	140	101	132	96	125	91
Eastern Europe Sub-total	107	250	100	155	62	238	95	246	98	216	85	217	87
Manchuria	105	232	100	198	85	183	79	215	93	218	94	211	91
Total	104	224	100	128	57	176	79	196	87	193	86	197	88

<sup>1</sup> Includes barley, oats, corn, buckwheat, maslin, millets, spelt, broom corn, kaoliang (in Manchuria) and small quantities of other unspecified grains, but does not include rice.

<sup>2</sup> Five-year prewar period 1933-1934 through 1937-1938.

TABLE Q.—TOTAL GRAIN<sup>1</sup> PRODUCTION PER CAPITA. Estimates for 1946 and 1947 and Expectancy for 1950, 1955, and 1960 Expressed in Kilograms Per Person Per Year and as Percentages of the Prewar Average 1935-1939

Specified Country	Percent Self-Sufficient Prewar <sup>2</sup>	1935-1939		1946		1947		1950		1955		1960	
		Kgs. Per Year	Percent										
Soviet Union (in Europe and Asia)	102	505	100	326	65	389	77	432	86	456	90	491	97
Eastern Europe													
Finland	83	415	100	241	58	263	63	320	77	343	83	352	85
Poland	107	448	100	345	77	404	90	512	114	360	80	415	93
Czechoslovakia	98	398	100	388	97	346	87	463	116	533	134	553	139
Hungary	111	728	100	381	52	446	61	529	73	425	58	452	62
Rumania	114	582	100	266	45	443	76	478	82	407	70	377	65
Yugoslavia	109	518	100	351	68	490	94	480	93	392	76	407	79
Bulgaria	107	508	100	430	85	355	70	505	99	453	89	430	85
Albania	84	179	100	208	116	183	102	193	108	174	97	161	90
Eastern Europe Sub-total	107	499	100	341	68	409	82	482	97	408	82	423	85
Manchuria	99	266	100	210	79	198	74	237	89	245	92	239	90
Total	103	472	100	313	66	366	78	416	88	411	87	434	92

<sup>1</sup> Includes rice.

<sup>2</sup> Five-year prewar period 1933-1934 through 1937-1938.

## APPENDIX V

POPULATION ESTIMATES OF SELECTED COUNTRIES  
(PRESENT BOUNDARIES)

Population estimates for the countries included in this analysis were computed in consultation with the Population and Labor Branch, Division of International and Functional Intelligence of the State Department. These estimates, as shown in Table R, are for the periods 1937, 1946, 1950, 1955, and 1960.

In view of the unsettled economic, social, and political situations in all of these areas, population estimates for the present and even more so for the future are subject to a wide margin of error. Estimates for future periods are based on the assumption that rates of population growth will continue at approximately the same rates that prevailed before the war. It is thus assumed that the postwar boom in births in certain countries (e.g. Finland and Czechoslovakia) will not continue. At the same time, the figures make no allowance for long-run downward trends in fertility. It is assumed that in the Satellite Countries, as in the Soviet Union, the Communist regimes will endeavor to increase the population through policies which favor large families and that these policies will offset declines in birth rates which would otherwise be expected to occur.

The population for 1937 has been used to represent the average population for the five-year prewar period 1935-1939.

TABLE R.—POPULATION ESTIMATES OF SELECTED COUNTRIES  
(Thousands)

Specified Country	1937	1946	1947	1950	1955	1960
Soviet Union (in Europe and Asia)	188,625	191,500	192,750	196,500	209,000	221,000
Eastern Europe						
Finland	3,185	3,870	3,930	4,010	4,130	4,250
Poland	31,975	23,750	23,750	24,500	25,750	27,000
Czechoslovakia	14,460	12,300	12,175	12,500	12,750	13,000
Hungary	8,985	9,300	9,300	9,400	9,700	10,000
Rumania	15,290	16,500	16,600	17,000	17,750	18,500
Yugoslavia	15,795	15,300	15,300	16,000	16,750	17,500
Bulgaria	6,580	7,022	7,100	7,250	7,600	8,000
Albania	1,060	1,140	1,150	1,200	1,270	1,340
Eastern Europe Sub-total	97,330	89,182	89,305	91,860	95,700	99,590
Manchuria <sup>1</sup>	42,550	48,200	48,900	51,100	54,900	58,750
Total	328,505	328,882	330,955	339,460	359,600	379,340

<sup>1</sup> Assumes prewar rates of population increase which may be high in view of present and prospective civil disorders.

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## ADDENDUM

The production estimates included in this report for 1947 were based on information available as of 15 November 1947. More recent information on the 1947 bread grain harvest in Poland indicates an increase of 640 thousand metric tons of rye and 150 thousand metric tons of wheat more than is shown in the summary tables. Revised estimates of the 1947 grain harvest in other countries show some variations from the 15 November estimates. However, most of the changes are relatively insignificant.

The data on 1947-48 grain export commitments of the Soviet Union included in this report were based on information available as of 1 January 1948. Since 1 January 1948 the Soviet Union has made further grain export commitments involving approximately 1.0 million metric tons. A summary of these commitments as of 4 March 1948 is given below.

### SOVIET UNION: Grain Export Commitments<sup>1</sup> up to 4 March 1948

Country of Destination	Bread Grains <sup>2</sup>	Coarse Grains <sup>3</sup>	All grains
<i>1,000 Long Tons of 2,240 Pounds</i>			
Great Britain		738	738
Czechoslovakia	394	197	591
Poland	256	39	492
Belgium	310	84	394
Finland	167	84	290
Egypt	213	19	232
Norway	167	20	187
Rumania	89	20	109
Denmark	59	39	98
Bulgaria	78	20	98
Sweden	64	...	64
Total	1,797	1,260	3,293

<sup>1</sup> Only firm commitments or actual shipments are included.

<sup>2</sup> Wheat and rye.

<sup>3</sup> Oats, barley, corn.

<sup>4</sup> Includes 197,000 long tons undesignated as to kind of grain.

<sup>5</sup> Delivery March - December, 1948.

<sup>6</sup> Includes 39,000 long tons undesignated as to kind of grain.

<sup>7</sup> Includes 30,000 long tons of spring wheat seed.

<sup>8</sup> Includes 236,000 long tons undesignated as to kind of grain.